

**MARSHLAND RESOURCES IN THE  
DELAWARE ESTUARY, 1830 TO 1950+/-:  
AN HISTORIC CONTEXT**

**by**

**Caroline C. Fisher**

**with**

**Allison W. Elterich  
Bernard L. Herman  
Rebecca J. Siders**

**Center for Historic Architecture & Engineering  
College of Urban Affairs and Public Policy  
University of Delaware  
Newark, Delaware**

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## Preface

The Marshland Historic Context was developed in response to concerns for the historic resources associated with the Delaware river and its marshes. The physical resources of fishing, trapping, waterfowling, and other traditional activities are quickly disappearing from the historical record. The goal of this project was to record some of these traditions and the property types that support them and identify other areas in need of research.

This context was a natural growth from the priorities established in the *Delaware Comprehensive Historic Preservation Plan*. The State Historic Preservation Office and the Grant Selection Committee of the State Review Board for Historic Preservation affirmed the need for such a context by making the development of an historic context concerning maritime cultural resources a high priority under the Historic Preservation Fund subgrant program for FY 92. The Marshland Historic Context represents only part of that priority; a second phase, focusing on ship and boat building, will be undertaken in FY 93.

In Fiscal Year 1992, the Center for Historic Architecture and Engineering received a matching funds grant from the Historic Preservation Fund to develop an historic context investigating the marshland historic resources associated with the Delaware River and its marshes. The project was conducted for the Delaware State Historic Preservation Office, Division of Historical and Cultural Affairs, and the grant was administered by the National Parks Service, Department of the Interior. The historic context was developed in accordance with the planning process described in the *Delaware Comprehensive Historic Preservation Plan* and the *Historic Context Master Reference and Summary*, as well as the Secretary of the Interior's Standards and Guidelines for Archaeology and Historic Preservation. All activities relating to the development of this context have been carried out in consultation with the staff of the Delaware State Historic Preservation Office, Division of Historical and Cultural Affairs.

Principal investigators for this project were Bernard L. Herman, Associate Director of the Center, and Rebecca J. Siders, Research Associate. Much of the research, writing, and field work was carried out by two graduate research assistants, Caroline Fisher and Allison Elterich. An advisory committee of preservation professionals, interested citizens, and people associated with the various types of marshland resources. The authors are grateful for their valuable suggestions and contributions to the context. We would also like to extend our thanks to the many members of the Port Penn, Leipsic, and Little Creek communities who provided oral histories that illuminated many of the gaps in the documentary research. Particular thanks go to Bob Beck, of Port Penn.

**FOR BOB BECK**

***His heart as friend and neighbor,  
his grace and skill as a teacher,  
his abiding affection for the world around us  
will assure the preservation and celebration  
of Delaware's marshlands***

## I. Introduction

The *Delaware Comprehensive Historic Preservation Plan* (hereafter the Delaware Plan) requires the development of historic contexts for the purpose of guiding historic preservation planning priorities in the state of Delaware. A fully-developed historic context links the physical resources on the landscape with the cultural and economic patterns of our history and provides the resources with a contextual significance. Historic contexts describe the types of resources associated with a particular historic theme in a specific geographic area and period of time; contexts also determine the criteria for evaluating those resources in terms of eligibility for listing on the National Register of Historic Places. Preservation professionals use this information to plan for the protection of cultural resources, to set priorities for funding preservation activities such as cultural resource survey and National Register nominations, and to identify new resources related to a particular historic context. Involvement of the public in the creation of the context and dissemination of the results of the project in publications and presentations generates greater public awareness of the value of historic preservation.

As an historic preservation planning document, an historic context forms a segment of the *Historic Context Master Reference and Summary* that is part of the Delaware Plan. Each fully-developed context segment must address the following eleven elements:

- \* historic theme
- \* geographic zone
- chronological period
- \* information needs and recent preservation activity
- \* reference bibliography
- \* method for involving the general and professional public
- \* mechanism for updating the context
- \* known and expected property types
- criteria for evaluating existing or expected property types
- \* goals and priorities for the context and property types
- \* distribution and potential distribution of expected property types

The Marshland Cultural Resources Historic Context seeks to identify and describe the physical and cultural environments associated with the Delaware River and its estuaries between 1830 and 1950. This historic context explores the physical landscape that people created, and how that landscape was related to their occupations and their dependence on the river and its marshes. The historic theme for the context is **marshland activity** in the **Coastal Zone** of Delaware. The chronological period for the investigation is **1830 - 1950 +/-**. These three elements define the scope of research for the historic context and are described in greater detail later in this chapter.

Use of the Delaware Estuary marshes can be characterized by four distinct periods of subsistence and commercial activity. The Marshland Historic Context focuses on the three most recent periods of activity.

\* 1600 - 1830 +/-: Land reclamation for agriculture; fishing on a local scale not intended for market. Fur sales are active by the late 1700s.

\* 1830 - 1850 +/-: Commercial fishing for market first appears; salt hay harvest, fur sales, and land reclamation for agriculture continue as important activities.

\*1850 - 1910 +/-: Decline in the harvest of salt hay and marsh reclamation accompanied by an increasing emphasis on large scale harvesting of fish and game for the urbanized markets demanding exotic foods.

\*1910 - 1950 +/-: Decline in agriculture and commercial fishing as viable sources of income; hunting and fishing gain popularity as recreational activities.

The Delaware Estuary and its marshlands have served as a continual resource to the individuals living within its proximity. Native Americans first harvested finfish, shellfish, turtle, waterfowl and other game in the area.<sup>1</sup> When European settlers arrived in the early 1600s, they also recognized the tremendous wealth of resources that the estuary provided, and supplemented their diet with fish and game.<sup>2</sup> Although these settlers may have sold their catch to a local store, large scale commercial fishing was not attempted due to transportation limitations; fur trading occurred only because the furs could be easily transported to domestic and foreign markets. The Europeans spent their efforts on agricultural production that succeeded because of soil and climatic conditions. In order to expand their yield of agricultural products, the farmers harvested the salt hay and ditched and banked marshy areas to utilize the fertile organic soil of the lowlands.

By the eighteenth century, watermen fished commercially and exported their goods to Philadelphia and Baltimore via boat. Port towns developed at the few points of fast land along the river. These towns housed ship builders, captains and their crew members, fishermen, trappers, hunters and the various occupations associated with a prosperous town--store keepers, merchants, doctors, pharmacists, cobblers, and dressmakers among others. In these towns, agricultural goods, fish, and game were packed for shipment to markets. Salt hay harvested in the numerous marshes and salt meadows was used for packing these shipments and for insulating the ice used to cool the seafood. River towns were thus areas of residence for some, but also places for the processing, exchange and export of agricultural and maritime goods for townspeople and individuals living in the surrounding areas.

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<sup>1</sup> Tracey L. Bryant, and Jonathan R. Pennock, eds., *The Delaware Estuary: Rediscovering A Forgotten Resource*, Newark, Delaware; University of Delaware Sea Grant College Program, 1988 (p. 12).

<sup>2</sup> *Delaware Estuary*, p. 16.

By the 1830s, oyster, shad, and sturgeon fishing were among the most lucrative endeavors for Delaware Estuary residents. Overseas transportation improved so that sturgeon roe (caviar) was being shipped to Russia, where it commanded high prices. Improved technology allowed for increased yields in oyster and shad harvests. Commercial gunners harvested extremely large numbers of ducks, rail, and other reedbirds. In the second half of the century, railroads further improved the market connections, shortening the time between harvest and market. The numerous technological advances caused long-term problems: mechanical winches for hauling nets and the gasoline engine increased fish harvests; and the cannon-like punt gun decimated wildfowl populations with the tremendous capacity of a single shot. Increased pollution from the large cities, chemical run-off from agricultural operations, development along the estuaries and marshes, and the destruction of fish habitat through dredging also adversely effected the quantity and quality of already threatened river resources.

The fishing and oystering industries each achieved minor comebacks from the drastic decline. Legislation designed to control overfishing was enacted and efforts to control pollution were attempted in the larger cities. By the early twentieth century, the most prosperous times had passed for the river towns, yet they continued to survive as communities where individuals' lives were tied to the river and marshes. Commercial fishermen continued their trade, but with fewer comrades and smaller catches. Many no longer depended on fishing, oystering, or trapping as their sole source of financial support, but only as a supplement to income and diet.

As the function of the river town diverged from that of being centered around life on the water, many of the physical resources associated with a small shipping port and maritime-oriented town began to change in function or disappear. Wharves and docks fell into disrepair. Boats that were no longer in use were abandoned in the marsh or hauled inland and left to deteriorate; other fishing equipment was permanently stored away or fell into disrepair. Stores, warehouses, and ship chandleries were modified to meet more current uses. Muskrat skinning shed and floating fishing cabins were modified for use as sheds or miscellaneous other outbuildings. These changes significantly altered the appearance of the landscape on which maritime and marshland activities had once been very prominent.

### **Elements of the Historic Context**

Three major elements define the research in an historic context: historic themes, geographic zone, and chronological period. Each of these elements provides limits to the material that will be discussed in a particular context. The elements that characterize the limitations of the Marshland Historic Context are described below.

## Historic Themes

Marshland activity along the Delaware River has revolved around three of the historic themes identified by the Delaware Plan: Agriculture, Trapping & Hunting, and Fishing & Oystering. Based on these activities and historic themes, the Marshland Historic Context identifies physical and associative property types that can be linked to the specific activities of agriculture, trapping and hunting, or fishing and oystering. Physical property types are those properties that are linked to an activity by physical characteristics such as “structural forms, architectural styles, building materials or site types.” Associative property types are linked by “events, activities, specific individuals, groups or the kind of information a resource may yield.”<sup>3</sup> Through research, the Marshland Historic Context identifies extant structures built during the time period, as well as those that may not have survived; the context also discusses the projected survival rate and pattern of reuse in buildings.

**Agriculture.** Agriculture as a theme is defined as the production of crops for food or as raw materials for manufacturing industries. Specifically, this context deals with the production of salt hay in the marshes to be used for packing material and rope making. In addition, this context will discuss the reclamation of the marshes for general agricultural uses through ditching, draining, and diking.

**Trapping & Hunting.** As defined by the Delaware Plan, the theme of Trapping & Hunting includes

the taking of naturally occurring animals and fowl for fur, feathers, food, and other uses. This theme includes resources representing commercial endeavors specific to the taking of all game and the management of game stocks. Many of these activities are carried on for either commercial production or sporting purposes.<sup>4</sup>

For the purposes of this context, trapping and hunting will include activities such as muskrat trapping, water fowl hunting, and turtle trapping. All of these activities were undertaken for commercial, sporting, and sustenance reasons.

**Fishing & Oystering.** As defined by the Delaware Plan, Fishing & Oystering includes the taking of naturally occurring fish and shellfish for fertilizer, food, and other uses. This theme also includes aspects of mariculture and game management, related to the cultivation and maintenance of naturally occurring fauna for commercial and resource conservation purposes. Fisheries are subdivided into operations related to finfish, shellfish, whale products, and miscellaneous marine products.<sup>5</sup>

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<sup>3</sup> Delaware Plan, p. 24.

<sup>4</sup> Delaware Plan, p. 25.

<sup>5</sup> Delaware Plan, p. 26.

This context will discuss fishery activity that occurred close to the shore, including the taking of shad and sturgeon; crabbing is omitted since major commercial activity began only relatively recently. The offshore fisheries and oystering are also omitted from the context .

### **Geographic Zone**

The geographical area of the Marshland Historic Context is a portion of the Coastal Zone (Figure

1). By definition, the Coastal Zone

encompasses the coastline of Delaware and extends out to the three-mile limit or the state line on the water side; on the inland side, it reaches to the head of navigation...The zone boundary is not a line running parallel to the coastline, but also includes the land in the immediate vicinity of a river or stream up to the head of navigation.<sup>6</sup>

This historic context focuses on that section of the Coastal Zone which includes the marsh along the riverfront and the rivers and streams that feed into the Delaware estuary, specifically in the section along the Delaware coast from Wilmington south to Lewes.

The Delaware River is the marine body that begins in the "upper drainage basin in Pennsylvania, New Jersey, and southern New York."<sup>7</sup> This fresh water flows some 200 miles to the mouth of the Delaware estuary, which is marked by the fall line just above Trenton, New Jersey. The estuary extends southward another 75 miles to the mouth of the Delaware Bay where it meets the Atlantic Ocean. The entrance to the bay is marked by Cape Henlopen at Lewes, Delaware, on the west and Cape May, New Jersey on the east. The entire estuary is controlled by the tides and a 50 mile portion of the river above the fall line is "influenced by the tidal currents that move upstream through the mouth of the bay."<sup>8</sup> While the water above the fall line is fresh, the estuary contains "four trillion gallons of brackish to salty water,"<sup>9</sup> which varies in salinity depending upon rainfall, winds, and the controlled release of water into the river. Water supplying the river has two major sources: 1) indirect runoff through the rivers of the drainage system; and 2) direct runoff from the land or marshes. These fluctuations in salinity mean that finfish and shellfish inhabiting the river must be capable of adapting to the changing conditions in order to survive.

The Delaware estuary as a whole is relatively shallow, making navigation along the river and bay a difficult and dangerous activity. To accommodate shipping vessels, the river is dredged to a depth of thirty

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<sup>6</sup> Delaware Plan, p. 35.

<sup>7</sup> *Delaware Estuary*, p. 43.

<sup>8</sup> *Delaware Estuary*, p. 43.

<sup>9</sup> *Delaware Estuary*, p. 43.

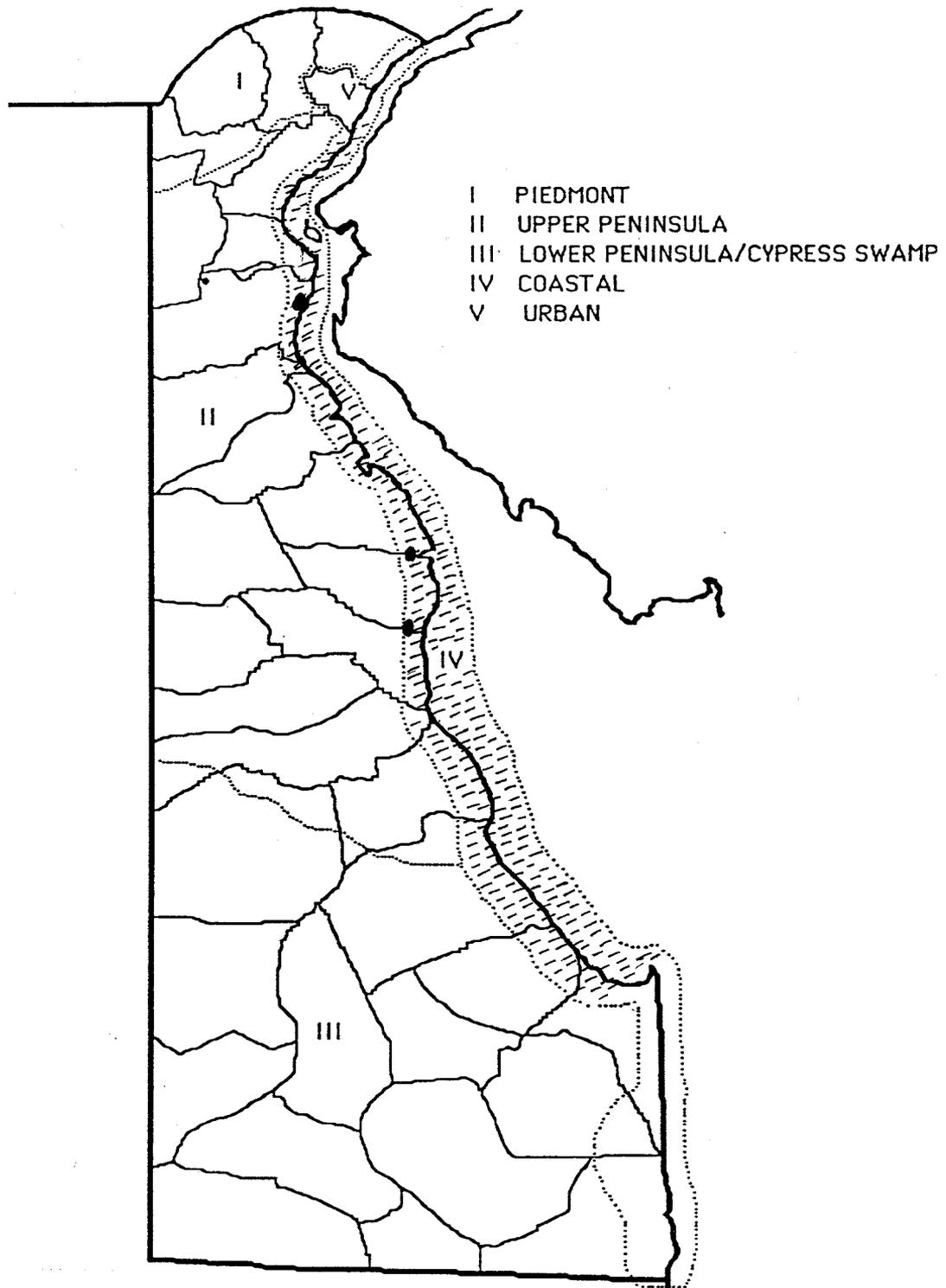


Figure 1: Map of Delaware showing geographic zones. The study area for the historic context is hatched.

feet between Trenton and Philadelphia and a depth of forty feet south of Philadelphia.<sup>10</sup> Areas of the Delaware Bay around Lewes are only twelve feet in depth, and various shoals make passage through this area impossible without the guidance of pilot boats, which have assisted ships through the Delaware estuary to Philadelphia since the late 1700s.<sup>11</sup>

The river is also marked by the presence of extensive tidal marshland in the shallow areas near the shore (Figures 2 and 3). There are approximately 98,800 acres of marsh on the Delaware shoreline. These marshes can vary from less than fifty feet in width to more than two miles at different locations. A tidal marsh can be defined very simply "as an area of grasses, sedges, rushes, and other plants that have adapted to continual, periodic flooding."<sup>12</sup> The two major topographical features found in a tidal marsh, other than the grass and reed-covered flats, are creeks and pans. The creeks tend to wind back and forth in giant s-curves; over time, their courses may change significantly. Pans are bare spots in the marsh that contain no vegetation as yet. The marshes contain a wide variety of grasses, including traditional marsh hay, cattails, and phragmites. These grasses support otter, muskrats, and other small rodents. Like the river, the marshes play an important role in the economic livelihood of the inhabitants of the river towns.

As part of the development of this historic context, detailed studies were undertaken of three villages in which fishing, trapping, and other maritime activity have been central to the economic vitality of the town. Leipsic (Little Creek Hundred, Kent County), Little Creek (Little Creek Hundred, Kent County), and Port Penn (St. Georges Hundred, New Castle County) were chosen for this purpose because prior research was available in the form of comprehensive cultural resource survey and nominations to the National Register of Historic Places. These nominations serve as a basis for the identification of prominent cultural resources and as a guide to the property types that have previously been omitted from the written record.

**Leipsic.** Known as Fast Landing until 1814, Leipsic is located in Little Creek Hundred, Kent County, on the south side of the Leipsic River along Route 9. The original town was proposed sometime after 1723, when a tract of land known as "Weald" was purchased by James Geno, George Geno, and Jacob Stout; the current layout was not achieved until the early nineteenth century.<sup>13</sup> The port first

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<sup>10</sup> *Delaware Estuary*, p. 43.

<sup>11</sup> *Delaware Estuary*, p. 45.

<sup>12</sup> *Delaware Estuary*, p. 95.

<sup>13</sup> Scharf, Thomas J., *History of Delaware 1609-1888*, Philadelphia: L.J. Richards & Company, 1888 (p. 1121).



Figure 2: View of salt marsh east of Route 9 in the vicinity of Port Penn. The building in the background is the Ashton House, built circa 1705 and listed on the National Register of Historic Places.



Figure 3: Muskrat "house" and marsh, southern New Castle County, circa 1929. This clearly shows the nature of a marsh prior to the introduction of phragmites.

gained its fame in the Delaware fur trade, and by the 1830s the port had become very prosperous as a shipping point for lumber, grain and oysters.<sup>14</sup> Three major thoroughfares established the structure of the town: Front and Lombard streets ran parallel to the river, and Main Street extends south out of town from the intersection of Front and Lombard. Leipsic became a major shipping point for furs, agricultural products (grain, produce, salt hay), and oysters. The town contained a well-established population of craftsmen and commercial workers, as well as day laborers and farmers.

**Little Creek.** Little Creek is also located in Little Creek Hundred, Kent County, seven miles south of Leipsic on Route 9. Originally known as Little Creek Landing, the town forms the first fast landing for navigation on the Little River. Developed in the mid-eighteenth century, the town was laid out as a line town oriented on a north-south axis. The town was founded as a “trading point and shipping location for agricultural and maritime produce harvested in the area. By 1887, the main business of Little Creek Landing was ‘dealing in oysters’ and the harvest of marsh hay for use in iron castings, livestock feed, rope making and packing.”<sup>15</sup> North of Little Creek is Port Mahon, a natural harbor and home to much of Delaware’s fleet of oyster boats. Oyster trade had become important by 1888, when it was estimated that over \$150,000 and 75 boats were invested in oystering in the Little Creek area.<sup>16</sup> By the late nineteenth and early twentieth centuries, Little Creek was home to a substantial community of watermen, as well as day laborers and farmers. Much of the land surrounding this town, west of the marsh, was involved in agriculture.

**Port Penn.** Port Penn is located in St. Georges Hundred, New Castle County, south of the Chesapeake and Delaware Canal and directly on the riverfront. The town was settled by Dutch and English immigrants as early as the 1640s, but it was David Stewart’s vision of a new city on the Delaware in the 1750s that resulted in the town’s formal settlement. Stewart saw promise in Port Penn’s location as an excellent harbor and he hoped that it would rival the ports of Wilmington and Philadelphia. In reality, Port Penn played a small role in regional commerce and evolved as a village that serviced the immediate countryside. It also developed into a town oriented around the water and trade. While it never achieved the status Stewart envisioned, it continued to survive as a port community that supported the surrounding farm country.

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<sup>14</sup> Scharf, p. 1121.

<sup>15</sup> “Historic Resources of Leipsic and Little Creek,” a National Register of Historic Places nomination.

<sup>16</sup> Scharf, p. 1120.

### **Chronological Period**

The chronological period for the Marshland Cultural Resources Context is 1830 - 1950 +/- . This period was chosen because of the economic importance of maritime activity during the time. Prior to 1830, fishing, trapping, crabbing, oystering, and other marsh activities occurred primarily for individual dietary supplement. Beginning in the 1830s, these activities began to take on a more commercial aspect. Delaware's coastal fishery developed as a collection of individually run operations economically directed toward regional food markets. From Wilmington south to the inland bays a strong water-oriented tradition took hold with watermen working a seasonal round of oystering, clamming, trapping, pound netting, seining, trot lining, and market gunning. These activities continued to have a major place in the state's economy through the early twentieth century, when the decline of the yearly catch prompted regulatory controls. While maritime activity continues in the marsh even today, it is on a much smaller scale than it was during its heyday in the nineteenth century. This historic context will discuss the growth and decline of the in-shore fishery in the Delaware estuary during the nineteenth and early twentieth centuries.<sup>17</sup>

### **Methodology**

This historic context was developed using several types of sources and methodologies. These included field work, archival research, oral history, and secondary sources. Each of these factors played an important role in assuring the completion of a fully-developed historic context.

#### **Field Work**

One of the first tasks was to examine the existing National Register nominations for the three study areas, Leipsic, Little Creek, and Port Penn. This was followed by a field examination of the buildings still standing in the towns to see what had been overlooked by the nominations. From this initial field work, a preliminary set of property types was compiled.

#### **Primary and Secondary Sources**

A comprehensive bibliography of sources, both primary and secondary, was collected and reviewed. A reference bibliography on marshland topics can be found at the end of this document. Some of the most valuable resources included a National Register of Historic Places historic district nomination for Port Penn and a multiple resource nomination for Leipsic and Little Creek that provided general history about the towns and information about the surviving architectural resources. *The Delaware Estuary:*

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<sup>17</sup> This context will not deal with the open-water fisheries, oystering, or crabbing. Open-water fisheries constitute a separate historic context by themselves, with specific historic resources that differ from those discussed in this context. The scope of this project was designed to clearly distinguish between the resources associated with inshore and open-water fisheries. Oystering has been dealt with in sufficient detail in the National Register nomination, "Historic Resources of Leipsic and Little Creek," including the nomination of three oyster schooners. Crabbing, as a commercial activity, did not become prominent in Delaware until after 1950, the end date of this historic context.

*Rediscovering A Forgotten Resource* documented technical information about the landscape, particularly the marshes and the wildlife. The manuscript population census for 1870 through 1920 allowed a detailed analysis of population and occupational trends in Leipsic and Port Penn. *Beer's Atlas of Delaware for 1868* was used to identify names and locations of residences and businesses. *The Delaware County Republican*, published from 1883 to 1895, served as a guide to publicized information and services. Paintings by Thomas Eakins illustrated various activities taking place on the Delaware River, from racing to fishing.

### **Oral History**

Oral histories with local residents yielded further information about the processes involved in various marshland activities, as well as physical and cultural features of the marsh landscape. Particularly useful were those histories gathered in 1979 as part of the National Register nomination of the Little Creek and Leipsic Multiple Resource Area. The information gathered in these interviews pertains primarily to the marshland history of the twentieth century. Since documentary evidence before this time period is minimal, the interviews have been an important primary source. Although the whole of the information cannot be applied to marshland activity that took place in the nineteenth century, the oral histories can shed light on traditional marshland activities, many of which originated in the nineteenth century.

## II. Traditional Economic Activities on the Delaware River

The marshland economy depended on a series of traditional activities tied to the natural resources of the water and the marsh. These seasonal activities generated a variety of specific functional and associative property types including boats, floating cabins, net drying racks, and the marshes in which muskrat were trapped. This chapter characterizes each of the traditional activities related to the marsh and its fisheries and describes the particular property types related to that activity.

### Seasonal Work on the Marsh and Water

Life on the water required an adaptability to changes that came with the seasons. To ensure a relatively steady income, watermen had to master a knowledge of the natural and biological patterns of fish, muskrats, waterfowl, and the marsh. This knowledge came from experience and from oral tradition among the watermen. By making full use of the seasonal changes in the river, bay, and marsh, a waterman could stay busy in a year-long cycle of activities.

I'd trap from the first of December till the tenth of March--on the inside marsh until the twentieth. Soon as this was done you started rock fishing or net fishing on through April; then when the shad hit you shad fished; then when the shad were done you went on down the Delaware Bay crabbing. We also used to sell eel through the Fall...We used to go to Mahon's [Port Mahon] and, well, as the water got cool about the middle of September, in a cabin-boat...and fish the creeks and ditches and bring them eels back alive and sell them to the buyers from New York..that was our Christmas money.<sup>18</sup>

In addition to these activities the waterman also fished for sturgeon in the spring and early summer, snapping turtles (or turkels) in June, July, and August, and carp in the winter months, and gunned wildfowl in the fall and early winter (Figure 4). With the various requirements of each occupation developed a specialized material culture: the construction of boats, knitting of nets and fykes, and use of traps, decoys, and guns are all vital and significant facets of the region's maritime culture. Both the labors of the seasonal cycle and its complementary material heritage may be grouped under three major headings; fishing, trapping, and hunting or gunning.

During each of the seasons, certain activities took place depending upon the natural cycle (and legal regulations.) Commercial fishing began in March and continued into June, when party boats of fishermen would be taken out on pleasure trips. Party boat fishing continued through August, employing a captain and crew to assist the clients. From March through September, the marsh was burned and hay

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<sup>18</sup> Interview with Carl Morris, Port Penn, January 1976, Bernard Herman and David G. Orr.

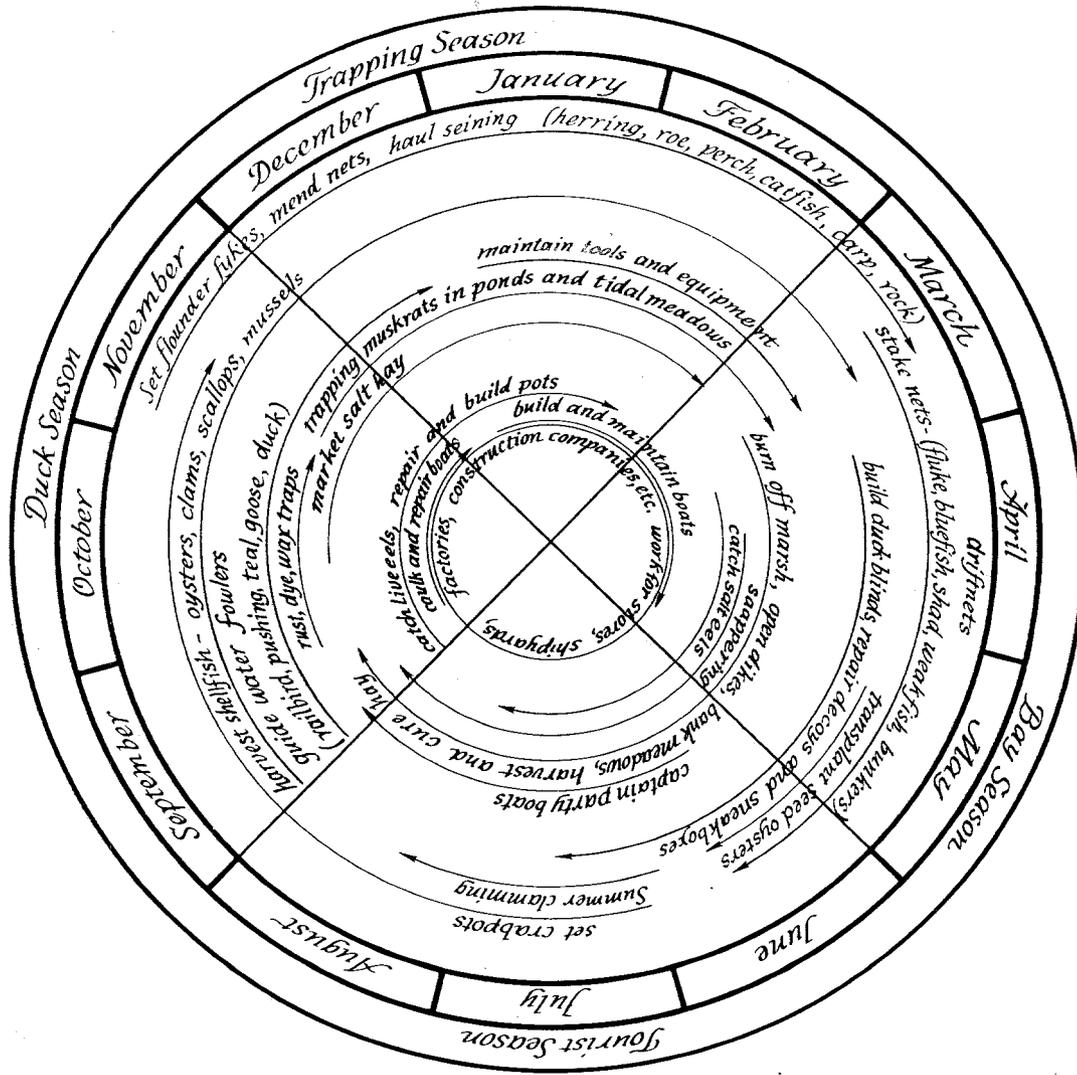


Figure 4: "Seasonal Activities on the Bay and Marsh." The sequence and types of activities recorded in the New Jersey Pinelands carry over to Delaware's historic marshland culture. Source: Mary Hufford, *Pinelands Folklife*, p. 117.

was harvested and cured. Eels were caught from April to July; snappering or turtling occurred from April to early September. From mid-May to mid-June seed oysters were transplanted to the growth beds. Crab pots were set in July and August; clamming occurred primarily in July. During the winter months of September through March, shellfish were harvested, particularly oysters. From September through December, local men would guide waterfowlers in hunting expeditions as well as doing their own hunting. In Delaware, rail, goose, and duck were the birds of choice for hunters. Starting in November, fishing began again for flounder, herring, perch, catfish, carp, and rockfish. Muskrat trapping in ponds and tidal marshes was also important from November through March. These activities were also intermixed with repair and construction of equipment.

### Fishing

The Delaware River and Bay consist of the marine environment that begins in the "upper drainage basin in Pennsylvania, New Jersey, and southern New York"<sup>19</sup> and flows south toward the Atlantic Ocean. The entrance to the bay is marked by Cape Henlopen at Lewes, Delaware, on the west and Cape May, New Jersey on the east. The area of primary concern for this study is that along the Delaware coast from Wilmington south to Lewes. The Delaware River is relatively shallow and is dredged to allow the passage of large ships to the Chesapeake and Delaware Canal and to Philadelphia. An abundance of wetland marshes line much of the river, allowing few ports to be located directly on the river.

Fishing was a popular and profitable endeavor for residents along the Delaware River. The river held an abundance of sturgeon and shad, the two most important species to the fishing industry. In addition, crabs, oysters, and turtles were gathered. Many property types were associated with the fishing industry: large boats powered by sail or by motor; wharves and docks; floating fishing cabins; fish houses; fish stands; and the boats, nets, drying racks, and other equipment used in fishing.

Fishing was traditionally carried on through the deployment of gill nets, seines and fykes in the channels cutting through the marsh. While knitting and hanging net and the fashioning of fykes for snapping turtles, catfish and eels were formerly carried out by the fisherman himself, these implements are now purchased with increasing frequency from outside manufacturers and constructed of wire mesh and synthetic fiber lines, rather than cotton or linen fibers.

The Delaware River and Bay support a variety of fish that are important to the economy of the area. Finfish, characterized by fins, scales, gills, and a backbone, are the most widely harvested resource along the river. The finfish are divided into three groups based on their habitat--freshwater, estuarine, or marine--and behavior, specifically their spawning location. Anadromous species of fish travel from a marine

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<sup>19</sup> *Delaware Estuary*, p. 43.

environment up a river to spawn, while the catadromous species of fish travel down the river to spawn.<sup>20</sup> Freshwater finfish live in the fresh nontidal and fresh tidal regions of the estuary and include gars, carp and catfish. Estuarine finfish live in the brackish and saline areas of the estuary and tidal wetlands, and include the mummichog, Atlantic silverside, and Bay anchovy. Marine finfish depend on the estuary for part of their life cycles, primarily as a nursery ground for their young; these include the weakfish, bluefish, flounder and menhaden.<sup>21</sup> While various types of fish were important to the fishing industry on the Delaware River, this historic context focuses on the American shad and sturgeon because of their prominent place in commercial fishing.

### **Shad and Sturgeon**

The American shad (*Alosa sapidissima*) is “one of the largest and most valuable members of the herring family.” The fish grows to a length up to 24 inches and averages a weight of 5 pounds. Although it is found all along the Atlantic coast, it is most abundant in the Delmarva area where catches in the late 1890s ranged from 9 to 19 million pounds annually.<sup>22</sup>

The shad is an anadromous fish, living as an adult in the Atlantic Ocean and returning to the Delaware river to spawn. From late April through early June, the main spawning run occurs. During this time, the female shad will lay 20 to 150 thousand eggs, which will hatch in 2 to 15 days. The young shad are believed to spend their first winter in the protected bays and estuaries before making their first journey to the Atlantic Ocean. The fish reaches maturity at the age of 3-5 years, at which time it returns to the Delaware River in order to repeat the life cycle process.

Shad was fished commercially as a food source. The fish provided two popular dishes: the fish and its roe. During the season, which ran from March to June, events known as shad plankings occurred. The cleaned shad were cut in half along the backbone and placed with the fleshy side out on planks traditionally made of oak. The fish was secured to the plank with strips of window screen or other metal that were tacked on the back side of the plank. A more sophisticated form of securing the fish required a more complex plank with various nails that formed a pattern to allow the fish to be laced to the plank, much like a shoe lace. The planks were then propped about two feet from an open fire and allowed to cook for approximately an hour and a half, depending on the heat of the fire. Some planks were fashioned so that they could be turned over, creating a more evenly cooked fish. Seasoning for the fish was limited to salt, pepper, butter, and occasionally paprika. Fresh asparagus, “new” potatoes, rhubarb, and sometimes

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<sup>20</sup> *Delaware Estuary*, p. 71.

<sup>21</sup> *Delaware Estuary*, p. 71.

<sup>22</sup> *Delaware Estuary*, p. 71.

snapper soup and cucumber salad completed the traditional meal served at a shad planking.<sup>23</sup>

Fishing for shad took place in the Delaware River and at the mouths of the many tributaries where the shad spawned. A skiff large enough to hold one or two men and the drift nets were the required tools (Figure 5). The men fished during the tides for a period of about eleven hours. If a fisherman worked an area of the river that was close to his home, he returned there after a day's work. If not, he lived in a temporary home called a floating cabin until the next period of work. Teams of four fishermen often worked together in the floating communities so that a single boat would be used continuously. One half of the team would work the first shift until the tide changed, while the other half of the team slept. The teams would then trade off for the second change of the tides. In the floating cabin communities, the day's catch was sold to lay boats that came from Philadelphia twice daily with the changes in the tide.<sup>24</sup> For boats returning to port, the catch may have been sold to a similar lay boat at a specified meeting point or taken into port and iced for shipment to Wilmington, Philadelphia, or other markets.

The Atlantic sturgeon (*Acipenser oxyrinchus*) is a large bony fish that is characterized by its extreme size and weight. Once found in lengths up to 18 feet, the fish has decreased in size to an average of 12 feet for females and a maximum of 7 feet for males. Like the shad, the anadromous sturgeon lives in the Atlantic Ocean and comes up the Delaware River to spawn in the area around Philadelphia during May and June. The female sturgeon can produce from 1 to 2.5 million eggs, which hatch in about one week. The sturgeon fry are thought to spend the first year in fresh water, after which time they migrate to the sea. Once they reach sexual maturity at a length of about 4 feet, they return to the river in order to lay eggs.<sup>25</sup>

Sturgeon fishing has had variable success in the Delaware River. In 1887 the Delaware sturgeon catch reached 3 million pounds of fish.<sup>26</sup> The sturgeon gained popularity during the early 1900s when the eggs (roe) of the female fish were eaten as caviar. From 1897 to *circa* 1922, the price of the roe increased from \$0.30 per pound to \$3.50 per pound. Pollution and over-fishing caused a decline in the catch; legislation was passed to slow the decline and the population again rose.<sup>27</sup> Unlike other types of fishing where the whole catch is considered important, sturgeon fishing is successful with the catch of a female

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<sup>23</sup> Telephone interview with Jim Waddington, April 1993, Caroline Fisher.

<sup>24</sup> Telephone interview with Jim Waddington, April 1993, Caroline Fisher.

<sup>25</sup> *Delaware Estuary*, p. 72.

<sup>26</sup> "The Search for Sturgeon," in *Outdoor Delaware*, p. 4.

<sup>27</sup> Chapter 4 contains a more extensive discussion of the effects of over-fishing and the legislation used to bring the fish population back.



Figure 5: Carl Morris and Joe Churchman fishing for carp in Appoquinimink Creek, Odessa vicinity, New Castle County, January 1976. Carl Morris mans the oars of his home-built bateaux. Note the sculling oar and net in the stern. Photo by Bernard Herman.

fish that is carrying roe. Often exceeding a hundred pounds per fish, the roe was harvested and sold as caviar (Figure 6). During the 1800s, the roe was packaged and shipped to Europe where it was in high demand, resulting in high prices and good profits for the fishermen.

Sturgeon were fished with nets having a large mesh that would entrap the head of the sturgeon (Figure 7). The net was “laid off” across the current of the water to drift up or down the river tide. While waiting for the tide to turn, the fishermen would tend the nets, checking for snarls in the net or catches. The most profitable time to fish was about an hour before the tide stopped running because this was when the sturgeon were most active. The fishing process was repeated three times a day.<sup>28</sup>

Sturgeon “meat” was also used as a food source. In 1865 a Russian immigrant and a German immigrant, each living in Pennsylvania, ran sturgeon farms. On the Russian’s farm, he placed sturgeon caught live by his fishermen

in a pen or enclosure, built expressly for the purpose, at the edge taken and killed as the butcher kills his cattle, whenever they are wanted. The fish is then skinned, and the meat, nicely prepared, is...taken in the steamer to Philadelphia, and from thence to New York, where it is sold under the name of ‘Albany beef.’ The meat is coarse grained and oily, and is, by no means, a savory dish to those unused to it. The head is used for making oil. The roe of the female sturgeon is put up in tin cans for the French, German and Russian markets, and is used as a relish, to some extent in this country by ‘gourmands.’<sup>29</sup>

The German performed the same type of process at his location on the Chester Creek. According to an 1867 article on his manufactory, both farms were in existence at the same time. “Quite an extensive business has been carried on by the proprietor during the past two years. The season lasts from the middle of March until the first of July, or a little later.” In addition to producing oil, caviar, and ‘Albany beef,’ this operation was also involved in the salting and smoking of the meat.<sup>30</sup>

### Property Types

**Boats.** The wooden fishing boat served as the base of all commercial and recreational fishing operations. The largest of these boats was the schooner (Figure 8), which was first powered by sail and later adapted to the gasoline engine upon its introduction in the 1910s. The following provides the most insightful definition of a schooner and the relationship of the general vessel type to variations found on the Delaware:

The schooner is a vessel built to carry gaff-headed, fore-and-aft-rigged sails on two or more masts. The gaffs, which extend the top of the sail out from the mast, give the sails a four-sided rather than triangular shape; smaller triangular sails, called jibs or headsails, are

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<sup>28</sup> “Sturgeon Fishing: Port Penn on the Delaware, 1966-67.” A film produced by the Port Penn Historical Society.

<sup>29</sup> *Delaware County Republican*, 2 June 1865.

<sup>30</sup> *Delaware County Republican*, 5 July 1867.



Figure 6:

"A Trio of Sturgeons taken at Caviar, on the Delaware River, in New Jersey. The Sturgeon fishery has been so intense as to make the taking of these fine fish to-day a comparatively rare occurrence. The largest one taken this year measured 10 feet 3 inches long, weighed 450 pounds before being dressed, and yielded 103 pounds of roe. With the meat selling for 50 cents a pound and the roe for \$2.75, the fish brought \$350." Note the incision from which the roe was taken. Source: *National Geographic Magazine*, 1923, p. 574.

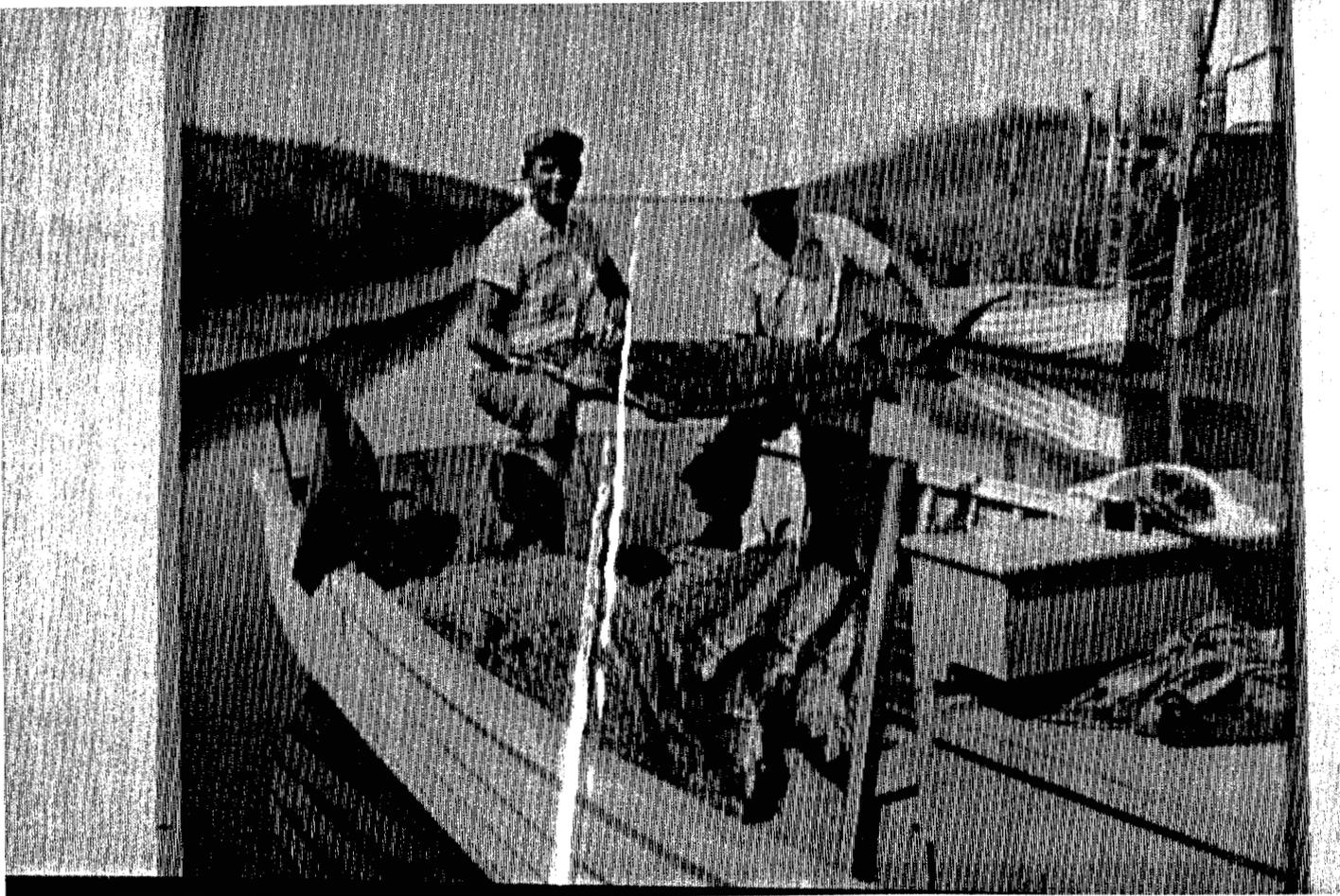


Figure 7: Bob Beck and Carl Morris of Port Penn with netted sturgeon, circa 1960. Photo: Bob Beck collection.

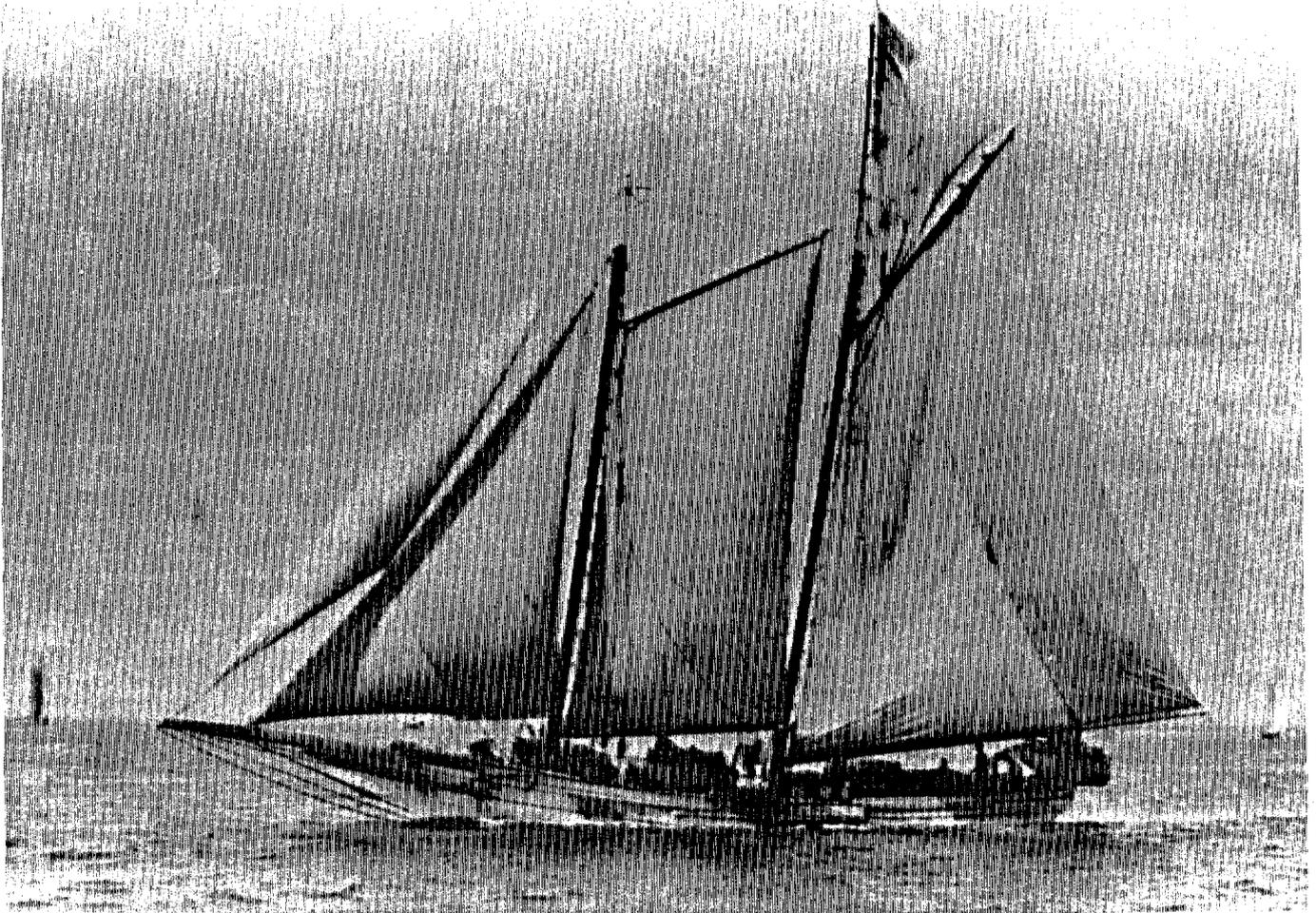


Figure 8: Jersey schooner under sail on the Delaware Bay. "The Old Schooner Grover Cleveland, built by Rice and Brothers in 1890s." From Donald H. Rolf, *Under Sail: The Dredgeboats of Delaware Bay* (1971) p. 18.

carried forward of the first mast, or foremast. Because the rig was relatively easy to handle, the schooner quickly gained currency after its initial development in early eighteenth-century America from English and European prototypes. Small schooners could be run by a crew of two or three; the craft was particularly well suited to working along coastlines, although schooners were also designed for longer oceangoing voyages as well as coastwise freighting and fishing trips.

Numerous local variations of the schooner form--hull and rig--began to appear in the eighteenth century and were further refined and developed during the nineteenth and twentieth centuries. Local hull types, such as the Jersey oyster schooner, were designed to meet prevailing conditions of tide, depth of water, and wind as well as the demands of a particular service. The vessel developed in South Jersey was a regional, or local, expression of the national schooner type. It was a beamy, heavy, centerboard vessel suited to the strong tides and shoal waters of Delaware Bay. The Jersey schooners were built as oystering vessels from before the mid nineteenth century through the 1920s. They ranged in size from about 60 feet long to over 100 feet on the keel. Over the decades, the design and dimensions were altered slightly, but the basic hull characteristics remained the same.<sup>31</sup>

The schooner was the largest of the fishing vessels used in the Delaware and was used in large scale fishing operations and in oystering. Under sail, the schooner was solely dependant upon the wind, often drifting after nets had been dropped into the ocean. The gasoline engine allowed boats to remain stationary with the nets, definitely the preferred method. Over time, the schooners were often renovated with the addition of cabins on deck (Figure 9). Originally, these cabins were built very low, only two to three feet above the deck; later, with the conversion to engines, larger wheelhouses were built.

Smaller boats used in fishing were the bateau, the shad skiff, the Delaware tuck-up, and the hiker, which was also used for racing (Figure 10). There are no known surviving examples of the Delaware tuck-up. The bateau is "a flat-bottomed boat with raked bow and stern, flared sides, [and] a strong sheer and rockered bottom" (Figure 11).<sup>32</sup> The bateau was particularly useful when navigating in shallow water because of the flat bottom. Carl Morris explained the laying out and building of a bateau:

You just figure out what you want for your width and your length. I take two pieces and cut them the height I want them for the sides. Well, your stem--pull your stern in where you want it and pull a line around to hold it and nail your stern through the center of your stem--twist it to make sure she's even on both sides. Lay your bottom plywood right on top of that and work it and cut it and put it on there...<sup>33</sup>

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<sup>31</sup> Anne E. Witty, *"Cornshuckers" and "Sandsnipes": The Oystering Schooners of Delaware Bay* (Newark: University of Delaware MA thesis, 1984) 7-9.

<sup>32</sup> Peter Bartis with Mary Hufford, *Maritime Folklife Resources: A Directory and Index*, American Folklife Center, No. 5, 1980, from glossary.

<sup>33</sup> Interview with Carl Morris, Port Penn, January 1976, Bernard L. Herman and David G. Orr.

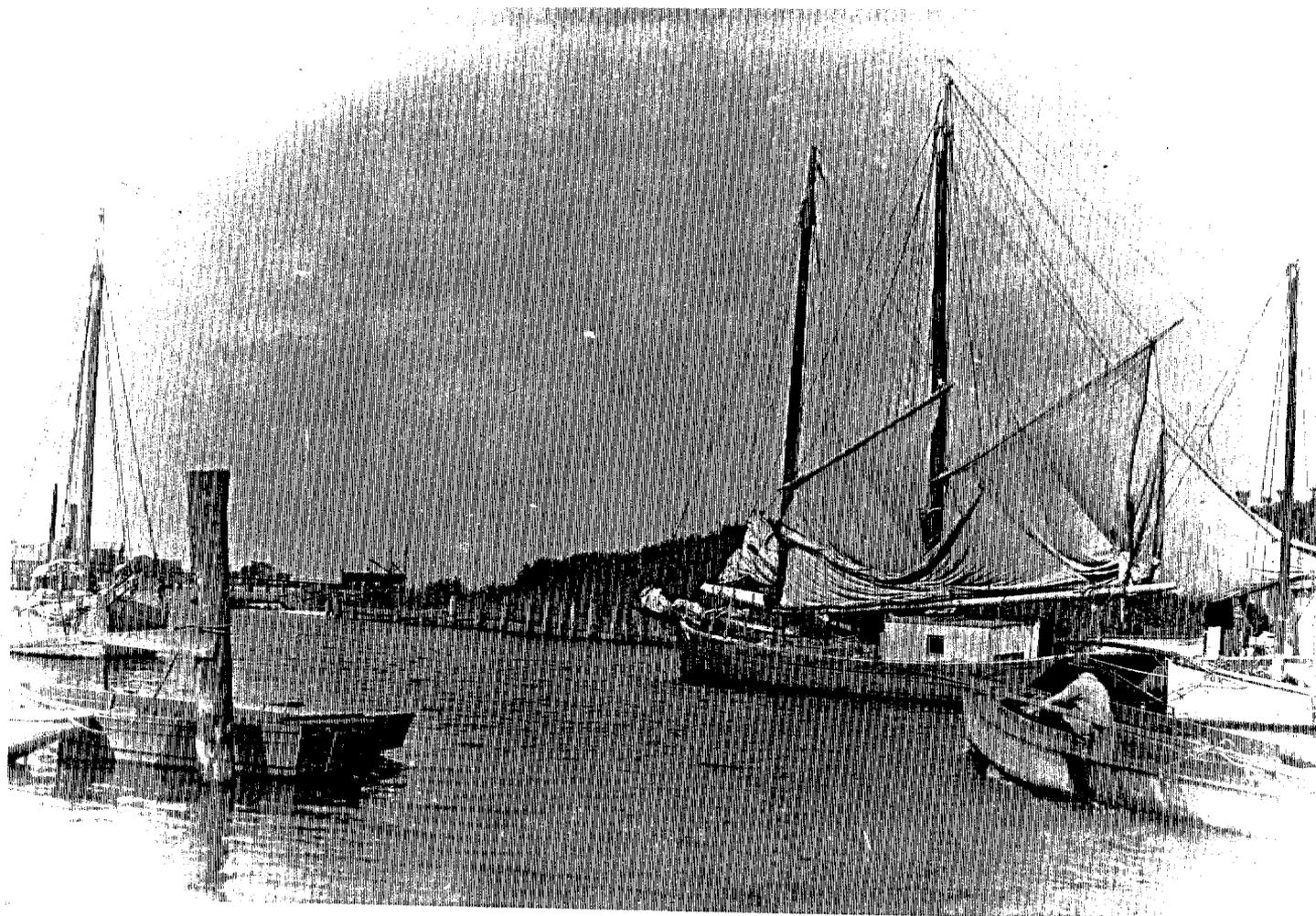


Figure 9: Jersey schooner at anchor, Port Norris vicinity, New Jersey. Note the practice of drying sails and the addition of the cabin behind the main mast (circa 1920). Photo: private collection (anonymous), Fairton, New Jersey.

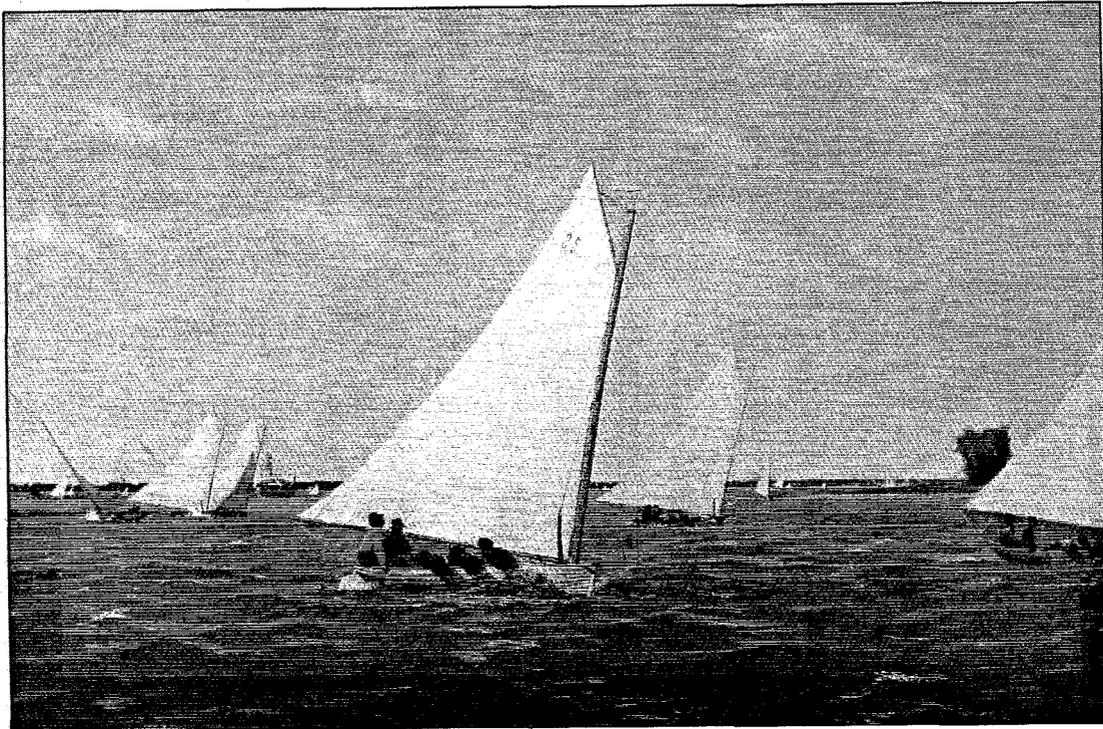


Figure 10: "Sailboat Racing on the Delaware," oil on canvas by Thomas Eakins (1874). These small "skiffs" were also part of the "Hooter Fleet"--a "small oyster tonging fleet." (Donald H. Rolf, *Under Sail: The Dredgeboats of Delaware Bay*, 1971 p. 61). Source: *Delaware Estuary*, p. 128.

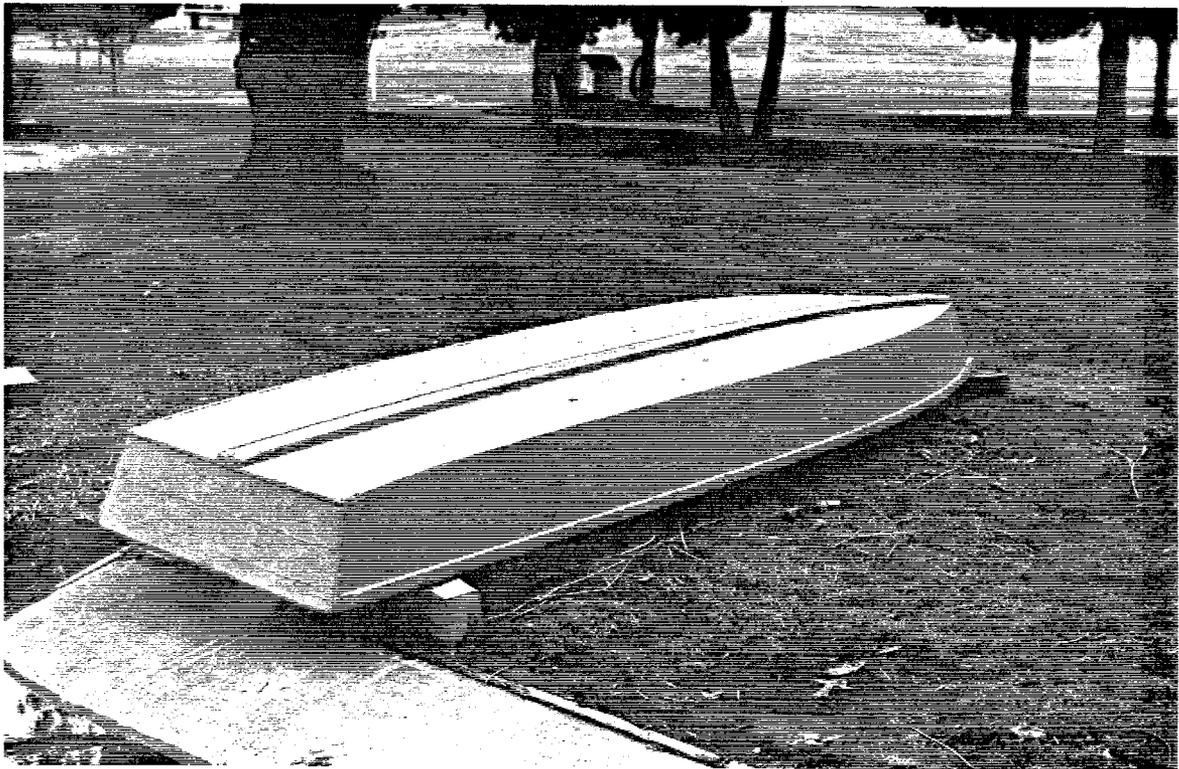


Figure 11: Bateau at rest, Odessa vicinity, New Castle County (January 1976). A modern example of a traditional boat type common to the marshlands. This bateau is constructed from plywood and dimension-sawn lumber. Photo by Bernard Herman.

An earlier type of bateau had a bottom that was completed with a series of lapped planks running across the beam of the boat and nailed into place at the base of the gunwales and caulked (Figure 12). Brass skids were also frequently nailed to the exterior of the bottom to facilitate poling the craft across ice in the winter. While it seems a flat bottomed boat would be more difficult to flip than a round hulled one, and subsequently more stable as a work boat, this was not the case according to Mr. Morris, "No, it's just an idea--different way, different people, I guess." Variations within individual construction techniques and boat forms support this impression. While most of the smaller boats used in Port Penn and Odessa were built with flush boarded bulwarks, a number were also "clinker" built, that is with lapped plank sides.

A third type of boat, the shad skiff, was also built and used in the area although there are no known surviving Delaware examples of such craft that date in construction to their heyday of use (Figures 13 and 14). A skiff is "a small working boat with a centerboard and spritsail which is rowed and sometimes guided by the oarsman's shifting his weight."<sup>34</sup> Used in shad fishing, shad skiffs were built in Penn's Grove and Salem, Salem County, New Jersey, directly across the Delaware River from New Castle County, by individual boatwrights who charged approximately ten dollars per foot in the late nineteenth and early twentieth centuries. Round hulled with a pronounced keel and flattened stern, the shad skiffs were equipped with false bottoms and powered, at first, by oar and sails, and later by motor.

To be considered significant in relation to this historic context, fishing boats should 1) possess the general form associated with the particular type of vessel as described above; 2) be of wooden construction; and 3) have documented evidence of use on the Delaware River or its estuaries. Documentation of use may be derived from oral histories, photographs, or written sources.

To determine significance, vessels should be inspected carefully with special note taken of form, materials, and construction. Efforts should be made to identify the date of construction and place of origin and/or use of the boat. Any alteration in form should be noted along with the reason for such change; alteration should not disqualify a vessel from eligibility since boats were often adapted to accommodate various uses. As long as the change was related to the boat's historic use, the change is acceptable.

**Fishing cabins.** Fishing cabins, also known as "floating cabins," "cabin scows," "fisherman's houses," "house boats," "shad boat-houses," and "river cabins,"<sup>35</sup> were a part of the equipment used in commercial fishing. A floating cabin was a one or two-room watermen's house built on a shallow-draught hull (Figures 15 and 16). At one time, many were anchored in the marshes and tidal meadows of the Delaware estuary wetlands. A basic one-room plan (with a single two-room example) is shared by all of the

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<sup>34</sup> *Maritime Folklife Resources: A Directory and Index*, glossary.

<sup>35</sup> Natalie Peters, *Floating Cabins on the Delaware River*, an unpublished thesis (University of Delaware, 1993) 1.



Figure 12: Clinker-built or raked shad skiff on the Delaware circa 1915. Note the two man crew with one manning the oars and the second beginning to feed out the net at the marker buoy. Compare this view to Figure 5. Photo: private collection (anonymous), Bacon's Neck, New Jersey.

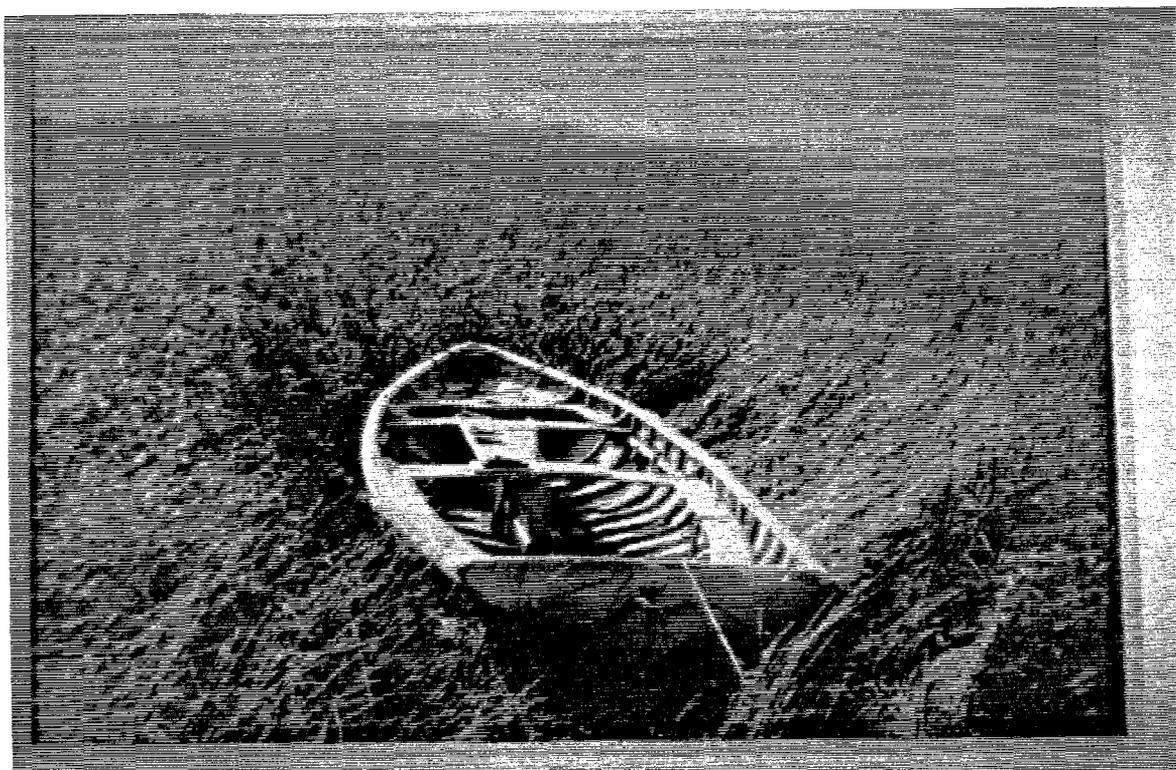


Figure 13: Shad skiff “land down” in the marsh. Several diagnostic features are visible including the heart shaped transom, ribbed construction, hole in the forward thwart for stepping the mast, and centerboard well (early 20th century). Photo: Port Penn Interpretive Center collection.



Figure 14: Shad skiff moored at Port Penn (early 20th century). In addition to the four shad skiffs, the photograph includes a bateau, lower left, and what appears to be a floating cabin with temporary dock, upper left. Photo: Port Penn Interpretive Center collection.

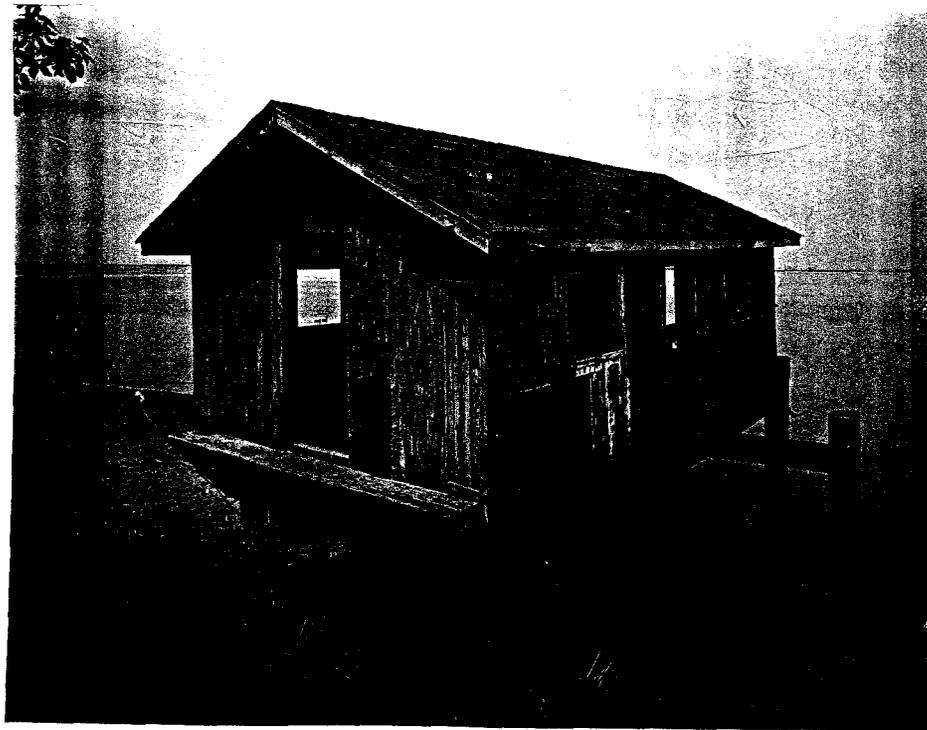


Figure 15: Floating fishing cabin, circa 1930-40, set on pilings, Elsinboro vicinity, Salem County, New Jersey. Constructed late in the history of floating cabins, this example may have been purpose built more for recreation than commercial fishing. The structure has been saved and re-outfitted in the Salem area. Photo: 1992, David Ames.

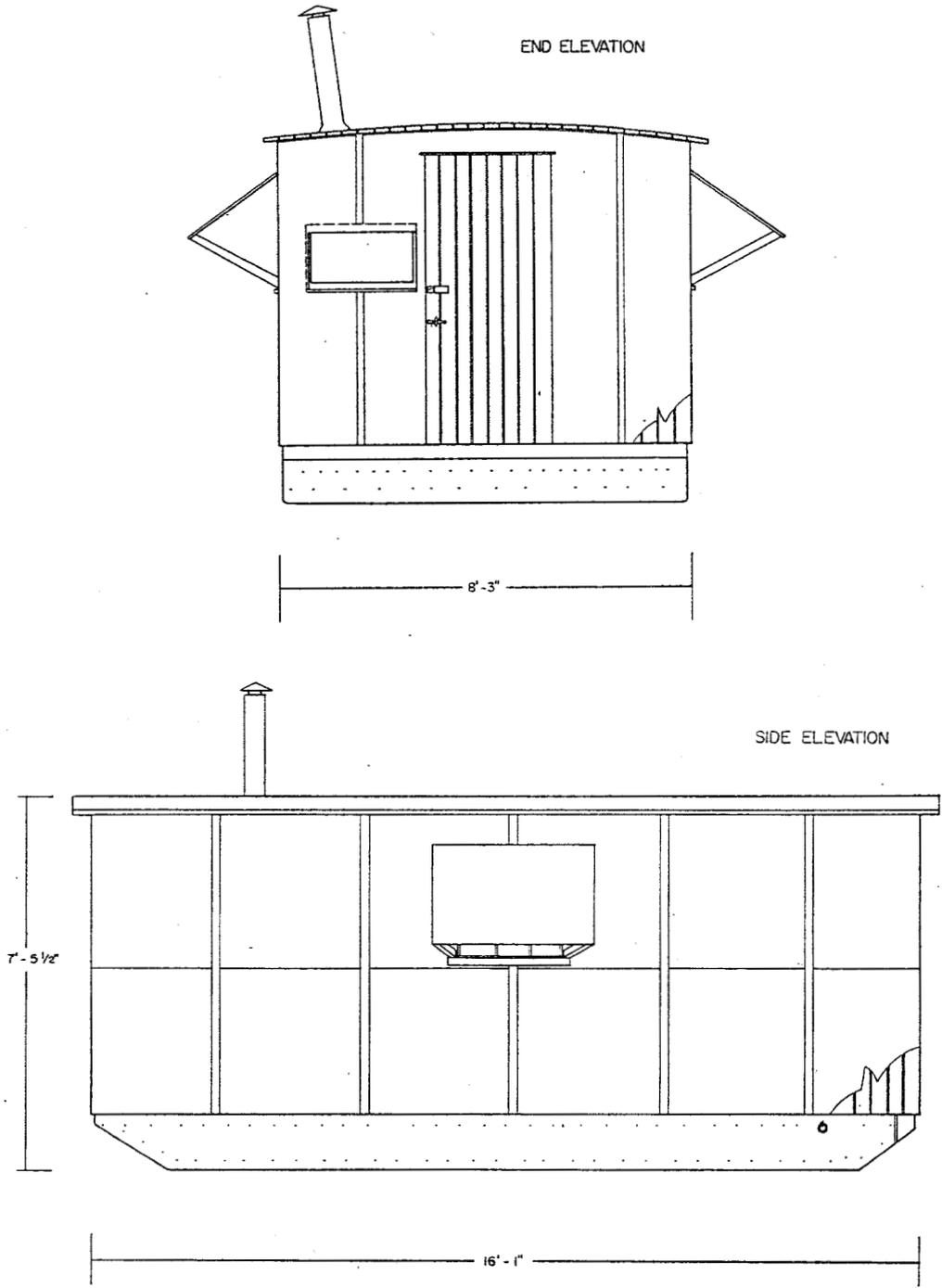


Figure 16: Floating cabin recorded at Liston Point, New Castle County, Delaware. The slightly bowed roof, stove pipe, and single window are all common features. This floating cabin has been moved and renovated as an exhibit at the Port Penn Interpretive Center. Center for Historic Architecture and Engineering HABS drawing: Johanna McBrien, Meg Watson and Leslie Bashman, 1992.

examples still standing today; oral history confirms the frequency of a two-room plan type as well. The convention for either type is rectangular in shape, usually with a door or window at each end. Typically the front is more finished; one surviving cabin exhibits a small landing for easier entrance and exit only at the front of the cabin. The windows are approximately two feet square and slide horizontally in a side sash. This feature is particularly helpful in identifying possible surviving buildings when other, more definitive, characteristics have disappeared.<sup>36</sup>

Floating cabins were used as temporary residences for the shad fishermen throughout the fishing season in the creeks of the Delaware estuary until the early 1920s. Unlike typical houseboats, floating cabins have no engine or other means of self-propulsion. Located on all four corners of the scow-like hull of the floating cabins are metal rings approximately three inches in diameter (Figure 17). When it was necessary to move the cabin from one location to another, a rope was drawn through the front two rings and affixed to the back of a craft that would then tow the cabin to its new location. The rings were also used to stake the cabins in place during the fishing season. Since the Delaware River had a six-foot tide, it was necessary for the cabins to be moored in such a way that they could rise and fall easily with the water. This was accomplished by driving long poles into the river bottom through either the rings themselves or rope loops attached to the rings, allowing easier movement with the tide.

Floating cabins were placed seasonally on the creeks of the Delaware estuary by the local fishermen who sought to maximize the efficiency of the low-powered or man-powered fishing skiffs they employed in their trade. From this location it was possible to net shad and other ocean-dwelling fish as they returned to their natural freshwater streams to spawn. Until the early 1920s when pollution in the estuary drove most of the local fishermen out of business, the continued survival of the fishery depended on the waterman's ability to spend every possible moment on the river during the limited fishing period. The floating cabins enabled the men to avoid time-consuming twice-daily trips from their homes to the fishing grounds.

Modest in appearance and size, the cabins rarely evidenced any superfluous decorative trim or adornment. Equipped with two, or sometimes four, bunks and a wood or oil stove, the cabins housed two to four men and provided a place for the men to rest, cook, and eat after a hard day on the river. Cabins were staked in groups at the mouths of the creeks that feed the Delaware estuary, sometimes as many as a hundred or more in each creek, creating "floating communities" (Figures 18 and 19). The close proximity of the cabins gave the men added security during inclement weather and difficult times.

The cabins were generally owned by one fisherman who employed on or more other men--depending on the size of his cabin--who would reside with the owner in the cabin during the fishing season. When the fishing season ended, the watermen would continue to work together to make a living

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<sup>36</sup> Material for this section is excerpted from *Floating Cabins on the Delaware River* by Natalie Peters. The complete text appears in full as an appendix to this context.

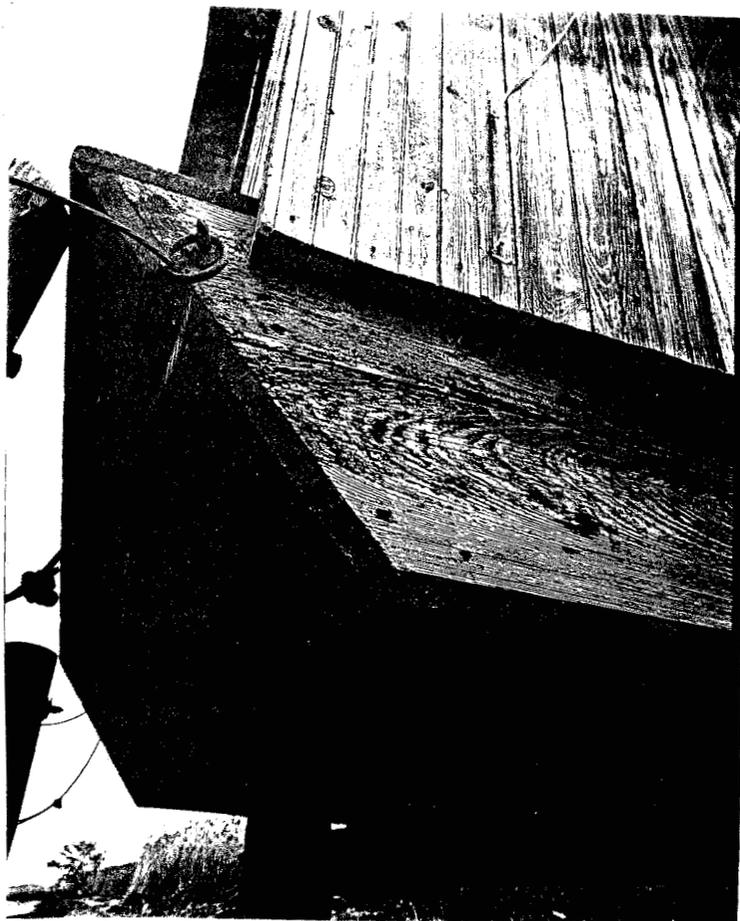


Figure 17: Mooring rings at corner of Elsinboro floating cabin (See Figure 15). Floating cabins were moored or “staked” in the marsh by hand driving cedar stakes through the mooring rings and into the marsh bottom. Photo: 1992, David Ames.

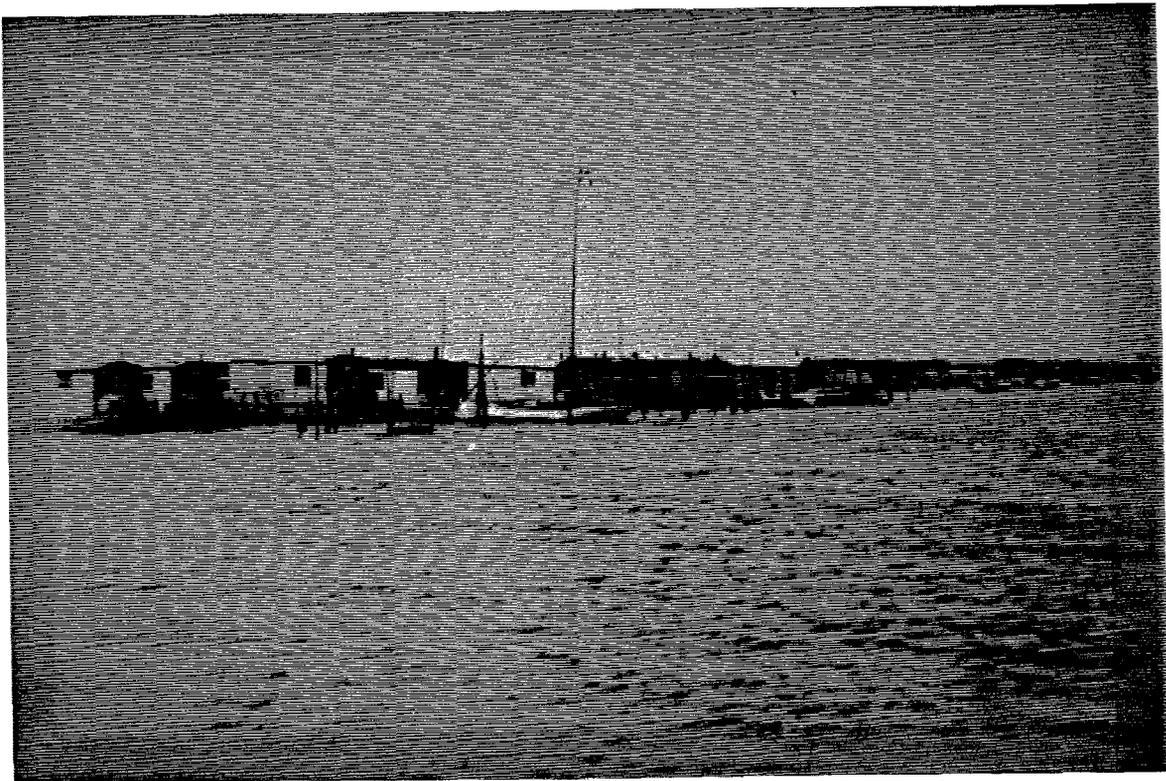


Figure 18: Floating cabin community on the New Jersey side of the Delaware River (early twentieth century). At the height of shad fishing season in early spring, fishermen brought their floating cabins and shad skiffs together in temporary communities. Lined up in street fashion, this community of cabins included wharves and other amenities, suggesting the site was reoccupied on an annual basis. Photo: Clem Sutton collection.



Figure 19: Floating cabin and shad skiff on the Delaware (early twentieth century). Represented here is the basic working constellation of the shad fishery: skiff, cabin and wharf. Photo: Bob Beck collection.

from the wetlands by hunting water fowl and trapping muskrats and other marsh game, often using their floating cabins as a base of operations.

**Boat construction and repair.** Boat building was typically an effort carried out by the individual waterman in consort with fellow friends or neighbors familiar with the craft; some buying, selling, and trading was carried on in the community. Most boats made in Delaware were small--bateaux, trapping boats, and rowboats--and were built in a shed, barn or yard. The Delaware ducker was constructed in the Philadelphia area, and shad fishermen obtained their skiffs from craftsmen on the New Jersey side of the river.<sup>37</sup> One Little Creek resident reveals that some boats were constructed at a location specified by the captain of the boat, as opposed to construction in a ship yard. In some cases, the actual construction was accomplished by itinerant boatbuilders.<sup>38</sup> She also confirms that smaller vessels were often constructed by local craftsmen/watermen for their personal use. The art of boat building was often passed through the family from father to son. Craftsmen maintained different styles of workmanship. Waterman and boat-builder Bob Beck reports that his father could look at a boat and recognize the craftsman based on the distinctive style of the boat.

According to photographic evidence, the primary property types associated with boat construction were the large workshops and boat yards (Figure 20). Workshops were one-story frame buildings constructed with high ceilings to accommodate the scaffolding necessary to hold the boat under construction and to allow access to all sides of the boat. Generally, these workshops contained numerous windows to allow maximum natural light during construction. One of the gable ends of the shop was constructed to allow a wide opening that the finished product could be moved through. A final feature of these work spaces was the scaffold framing that was tied into the side walls of the building. Other boat construction took place in private workshops or yards that may be difficult to identify as areas of boat building. No known examples of these workshops survive; all descriptions are presently based on photographic evidence. Any building suspected of serving this purpose should be researched through documentary records and examined in order to determine criteria for evaluation.

**Wharves and docks.** When not in use, or when they were being repaired, boats were tied at wharves and docks along the sheltered harbors and navigable estuaries of the Delaware River. The wharves and docks were constructed of wooden planks supported by wooden pilings driven into the shallow mud of the riverbank. At one time, numerous wharves were located along the banks of the river and creeks (Figures 21 and 22). These wharves were present in areas that are today unnavigable due to silt accumulation in the creek bottom. In areas such as Little Creek, the daily movement of numerous

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<sup>37</sup> Oral history interview with Bob Beck, 26 April 1993, Caroline Fisher.

<sup>38</sup> Oral history interview with an individual who wishes to remain anonymous, 1979, Delaware Agricultural Museum collection.

Figure 20: Boat shed and vessel under construction in Sussex County, Delaware (early twentieth century). Photo: Purnell collection, Delaware State Archives.

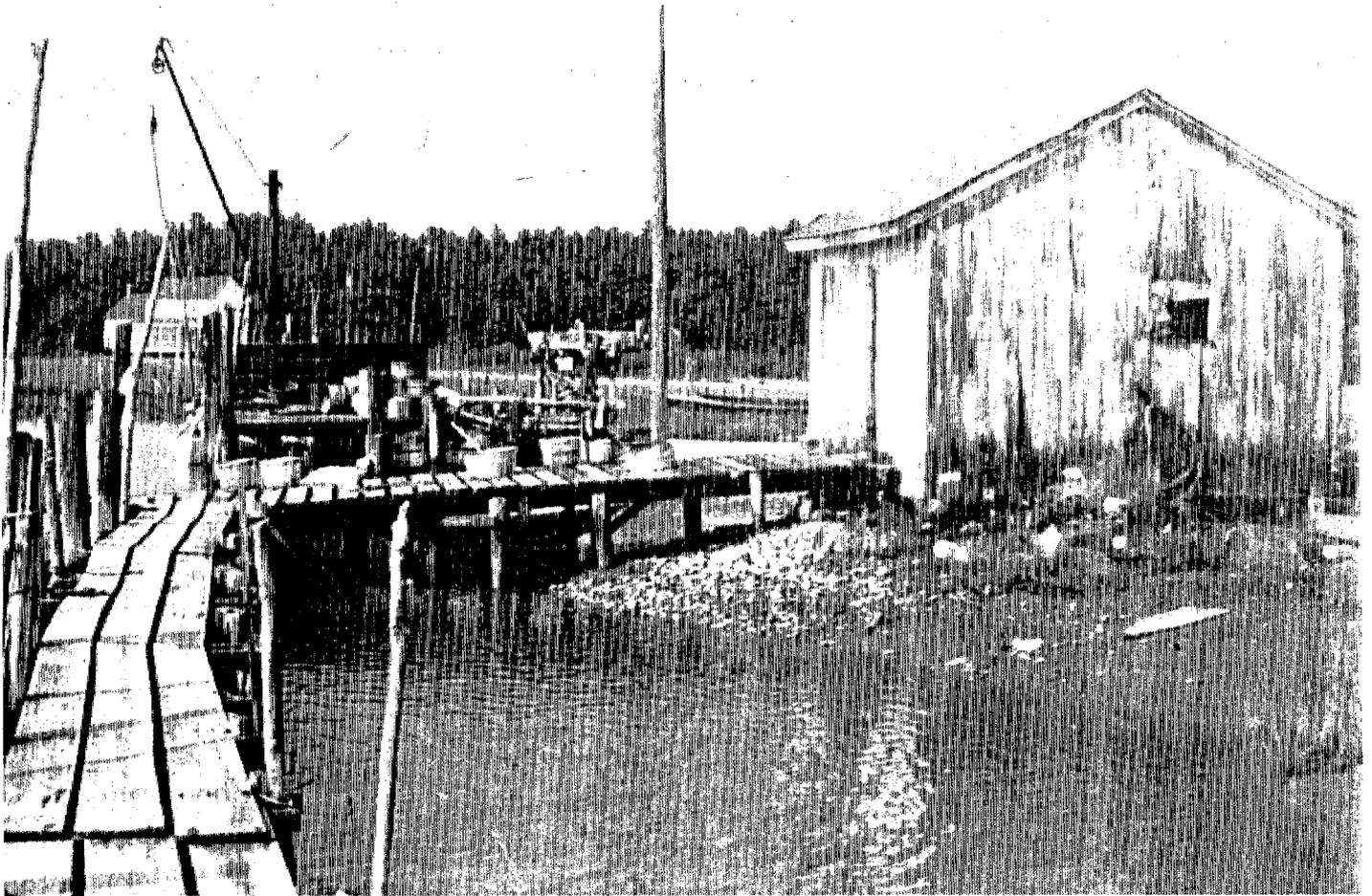


Figure 21: Wharves of varying durability were built the entire length of the Delaware peninsula. This example recorded on Box Tree Creek, Northampton County, Virginia, represents a working complex which has largely disappeared from the Delaware landscape. Photo: 1977, Bernard Herman.



Figure 22: Wharves with shad skiffs and bateaux at anchor in Port Penn [?]. Small scale work structures include piling-supported wharves (some only a single board side), work sheds, and floating cabins. Early 20th century. Photo: Port Penn Interpretive Center collection.

fishing and oyster boats prevented this natural silting process from occurring in the small creeks. One Little Creek resident explained that there was no need to dredge the Little Creek when the boats were active because the movement of the boats kept the creek clear. Only after the volume of traffic began to decrease was there a need for regular dredging to keep the silt from filling the creek.<sup>39</sup>

Wharves and docks were constructed to allow access to and from boats. In addition to serving as the place where fish were unloaded, they were also an area of business when fishermen sold their catch to fish dealers. It is highly unlikely that docks constructed during the period of this context survive in the same form or are used in the same manner today. While historic wharves no longer exist in a usable condition, the remains of wharves and docks can be seen at low tide as wooden pilings protruding from the shallow water in numerous areas (Figure 23.) These remains are significant, however, for the information they provide about past activity on the maritime landscape. The location of such remains may reveal the extent of a wharf and its configuration. Numerous sets of such pilings would indicate that an area was heavily used for boating or commercial activity.

**Nets.** Most nets used for commercial and recreational fishing were handcrafted. Little is known about the craftsmen from the late nineteenth century, but a modern net-maker, Lydia Beideman, learned the art of netmaking from her father-in-law and husband, both of whom knitted nets for their own use and for sale to commercial and recreational fishermen. "You got to have your net and you gotta have your leads, the sinkers, floats, rope, and twine," Beideman says. "That's what you have to have to make a net. You make 'em according to order. Some of 'em you want to sink and you put more leads on 'em; others you want to float. If you want 'em to float, I put less leads on 'em and more floats."<sup>40</sup>

Nets were often knitted or mended by a fisherman during a time when no work could be done on the water, frequently during the winter (Figure 24). Cotton or linen was knitted together using a wooden gauge to make the mesh openings equal in size; different size gauges and mesh were used depending on the type of fish the net was constructed to catch. Once the net was knitted, lead lines and cork lines were "hung in" (Figure 25). The cork line held the net at the surface of the water and had floats attached directly to it or to a string approximately one to two feet from the net; floats were attached at regular intervals along the net. Lead lines with metal weights (usually lead) held the net down in the water. Net knitting was not confined to a specific area, but hanging the net required suspending the quick and lead lines so that the net could be attached. When inspecting buildings associated with watermen or fishermen, evidence of hooks or nails on which the nets were hung should be identified.<sup>41</sup>

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<sup>39</sup> Oral history interview with individual who wishes to remain anonymous, 1979, Delaware Agricultural Museum collection.

<sup>40</sup> *Delaware Estuary*, p. 73.

<sup>41</sup> Interview with Bob Beck, 26 April 1993.



Figure 23: These remnants of wharves and docks on the Little Creek in Kent County, Delaware are indicators of the past activity in the area. Similar remains can be found in numerous areas throughout the coastal zone and should be used to identify possible sites or resources related to the marshland economy. Photo: 1993, Caroline Fisher.



Figure 24: "An Atlantic Fisherman Mending His Nets--The gear with which the ocean fishermen comb the seas for food for man is of many kind and divers types. The capital invested in the fishing fleets of the North Atlantic is in the neighborhood of \$100,000,000." Source: *National Geographic Magazine*, 1923, page 591.

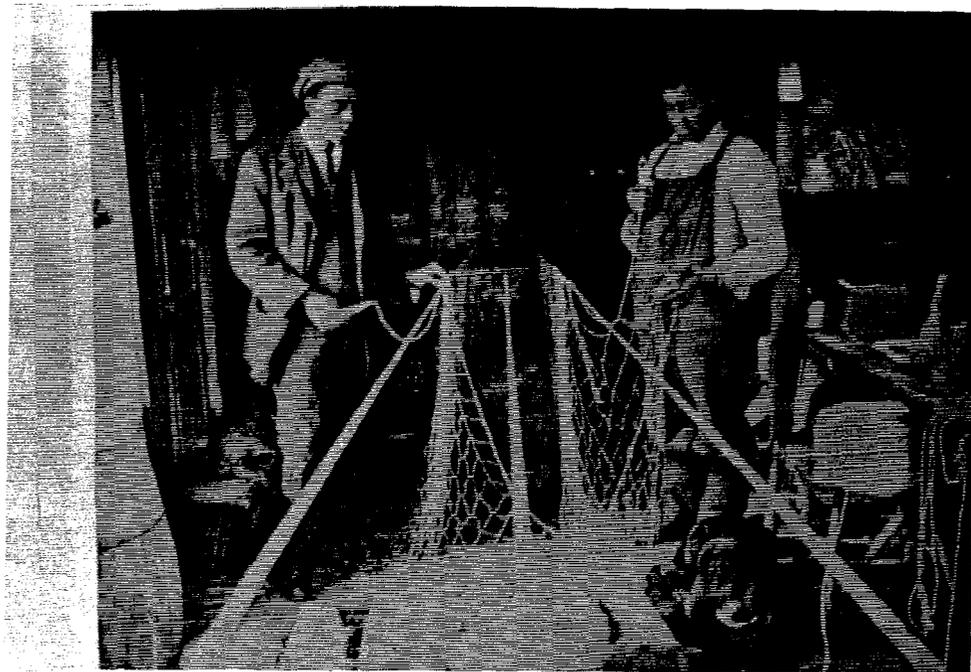


Figure 25: African-American net hangers on the New Jersey side of the Delaware River (circa 1900). Not only does this photograph illustrate the craft of knitting and hanging net, it also clearly identifies the presence and contribution of African-Americans to the Delaware fishery. Little documented, the contributions of these individuals are a vital information need. Photo: private collection (anonymous), Bacon's Neck, New Jersey.

Nets were fashioned into various styles to catch the fish. Among these types of nets were the cast net, the pound or weir, the sweep seine, and the gill net. The earliest type of net used was the cast net, which was thrown out over a school of fish. Use of this net required great skill in order to collect the fish. Pound or weir nets were used to catch fish directly off the shore. Staked into the river with poles, the net was stretched out into the river and ended in a circular pattern (Figure 26). The opening of the net was constructed so that the fish could swim in but could not swim back out through the same opening. The fish would continue swimming into the tunnel and eventually wind up at the center. The net would then be dragged up onto the shore and the fish were removed from the net.

The sweep seine was used to stop and encircle schools of fish. The gill net was used in deepwater fishing in which the fish ran into the "finest twine 'or thread' mesh and gets caught, unable to escape."<sup>42</sup> Seines and gill nets were long straight sections of loose net knit together for different depths and types of fishing. Along the bottom edge of the net lead sinkers were frequently clamped into place, while the surface edge was marked with a string of floats.

The type of fish that the fisherman sought determined the size of the openings in the net that he used. Rockfish required nets with openings of 4-5 1/2 inches; shad required 5 1/2 inch openings; and perch, bluefish, and trout could be caught with 3 1/2 inch opening nets.<sup>43</sup> Commercially made nets could once be obtained from the American Net and Twine Company of Boston, Massachusetts. The company imported a netting machine in 1858, but it failed to be adaptable to the various sizes of nets that were required for different types of fishing.<sup>44</sup> Different grades of mesh were used in varying situations, according to Carl Morris:

For rock we used a sixty-nine...the finer your twine the easier you'll catch your fish, and the coarser your twine you're not going to catch as many. A lot of them don't believe it. A fish is not blind is he?...So we used that sixty-nine. Well, we had two pieces of net; one was twenty meshes deep to fish on the high water...and we had a forty mesh net to go right down in along the channel...<sup>45</sup>

The largest form of gill net was constructed of #21 twine and was used for sturgeon fishing where nets must often be three fathoms deep to effectively cut across the channel bottom. To set a gill net for sturgeon the waterman let it out its fullest length straight across the channel being fished at the last hour

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<sup>42</sup> C.H. Augur, *Fish Nets: Some Account of Their Construction and The Application of the Various Forms in American Fisheries* (Washington, D.C.: Government Printing Office, 1894) p. 383.

<sup>43</sup> *Delaware Estuary*, p. 73.

<sup>44</sup> *Fish Nets: Some Account of Their Construction*, p. 387.

<sup>45</sup> Interview with Carl Morris, Port Penn, January 1976, Bernard L. Herman and David G. Orr.

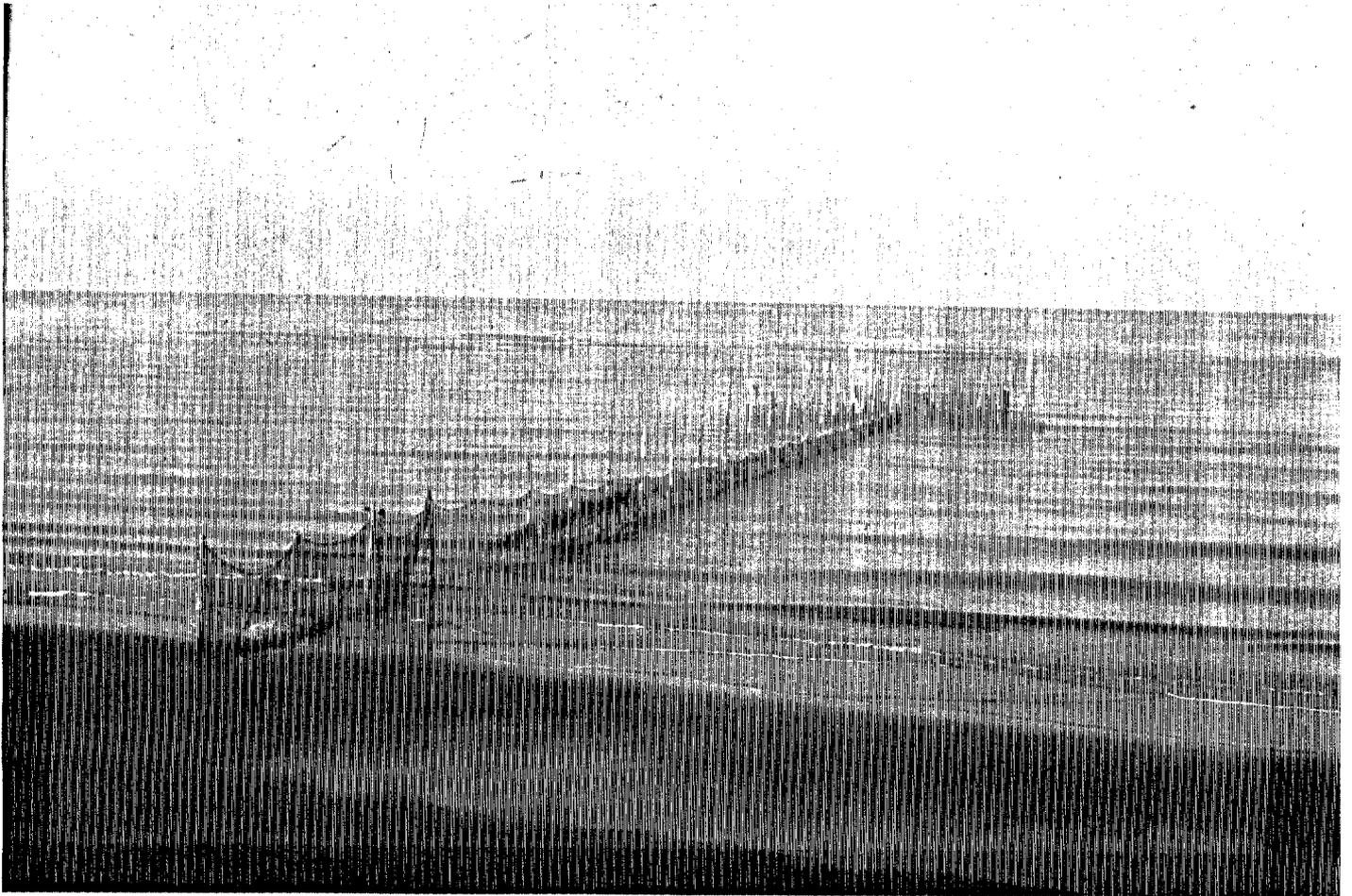


Figure 26: Oral histories suggest the use of pound nets in the Delaware Bay. Like this one recorded in Northampton County, Virginia, Delaware pound nets extended out at right angles to the shore. Fish swimming with the tide would become trapped in the box-like arrangement at the end where fishermen in bateaux would retrieve the catch. Photo: 1977, Bernard Herman.

of the tide. The sturgeon moving up the channel simply swam into the net and were quickly entangled in the fine mesh. The fish were hauled in with the net as it was pulled back across the channel and into the boat. In instances when sturgeon came in close to shore to feed, the fisherman would shorten the net by taking up the bottom slack of a thirty foot net, inserting a wooden stake--a stob--through the folds, and fishing the shallow waters.

To set and pull a carp net required a separate process involving a smaller net and dissimilar techniques. Diagraming the plan for setting a carp net, Carl Morris explained:

Say this is the shoreline. Stick a pole here, then come around this way about twenty or thirty feet. When you get it almost out you curl around this way and back down the shore as close to the shore as you can get. Most of the time if you make a noise, they'll start. You'll start picking them up at the beginning of the return.<sup>46</sup>

As the net was brought in it was kept right along the bateau being rowed with the tide. The biggest portion of the haul was back at the starting stake when the circle was completed and the seine hauled back into the stern of the boat. After the carp were loaded into the bottom of the boat, they were rowed back to the boathouse and dumped into live wells (Figure 27) until they were dipped out and packed on ice for market.

After returning from fishing with the nets, watermen needed to dry the nets so they could be used efficiently on the next trip. Nets were dried by being stretched between two points; sometimes actual drying racks were used but sometimes they were just stretched between poles or trees (Figures 28 and 29). Mending holes and tears in the nets was another important activity that was often performed when nets were hung as they were during the drying process (Figure 30). Net drying racks are unlikely to survive with any integrity as they were extremely ephemeral in construction.

Nets used for fishing between 1830 and 1950 were constructed of cotton or linen; to be considered eligible for this context, nets should be made of these materials. Nets were continually repaired and remade with new materials; while it is unlikely that any nets will have survived in continual use or in storage from the period of significance, nets made in a traditional form could yield important information about the historic use of nets.

**Fish houses and fish stands.** Fish houses were the places in which fish were prepared for shipping. They would be separated and iced down to be sent by boat or train to markets in Wilmington and Philadelphia. Fish stands served the business of party boat fishing, in which sporting parties went out with a local captain for several hours of pole fishing. The clients usually paid a flat fee for a party of 6 people, and additional for any more than this. The boats left in the morning, sometimes as early as 3 or 4 o'clock and returned around noon. Upon their return, the fishermen had their catch cleaned and iced at

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<sup>46</sup> Interview with Carl Morris, Port Penn, January 1976, Bernard L. Herman and David G. Orr.



Figure 27: Carl Morris empties carp from his bateau into a live well or live box, Appoquinimink Creek, Odessa vicinity, January 1976. The live well or box was a slat sided container used to preserve fish until they could be sold for market. Morris's live well is unusually well built--other examples are simply square with wire mesh covers. Photo: Bernard Herman.

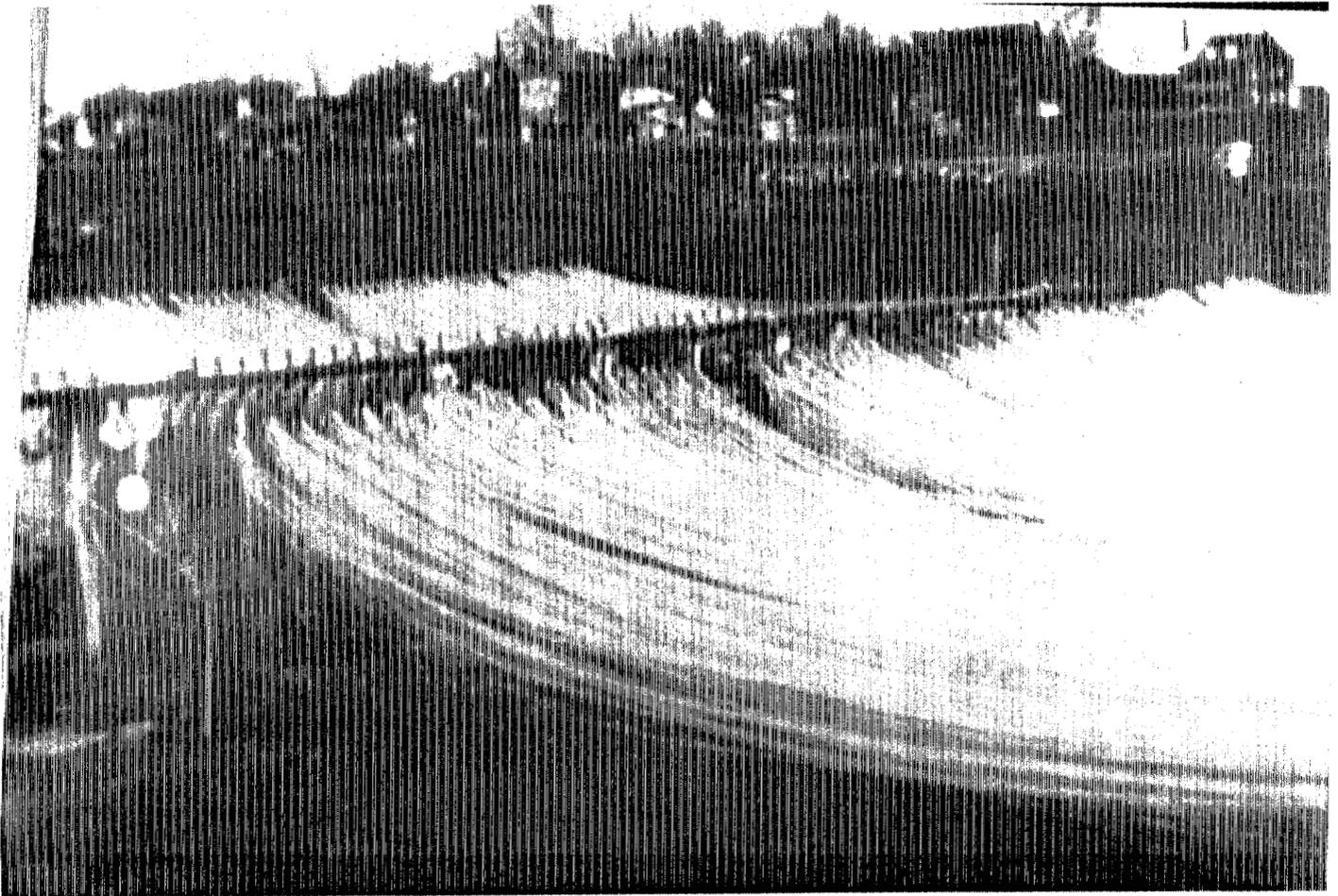


Figure 28: Port Penn net drying racks located south and east of town on drained marsh meadow (date unknown). Drying was an essential part of equipment maintenance in the Delaware fishery. Photo: Port Penn Interpretive Center collection.

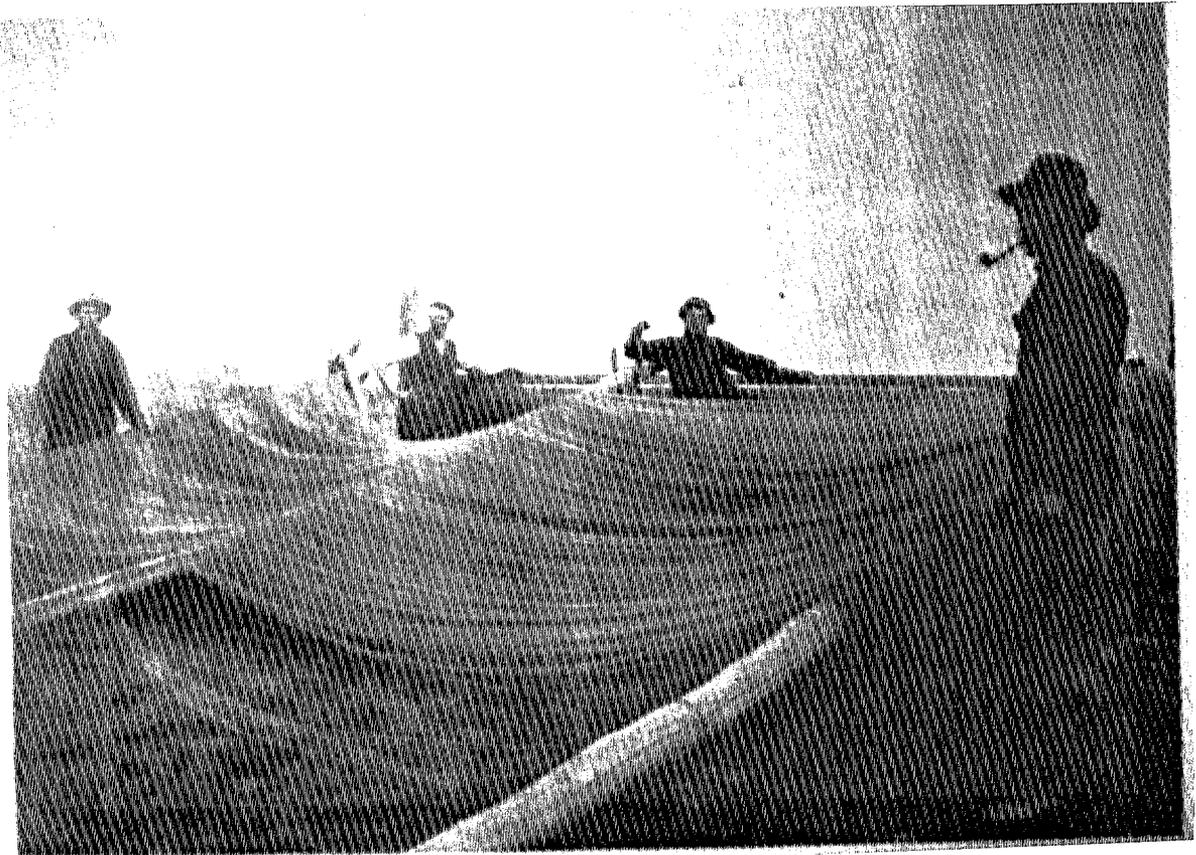


Figure 29: Shad nets drying on temporary racks adjacent to the marshlands and Delaware River on the New Jersey side (early twentieth century), Bacon's Neck, New Jersey. Photo: Port Penn Interpretive Center collection.

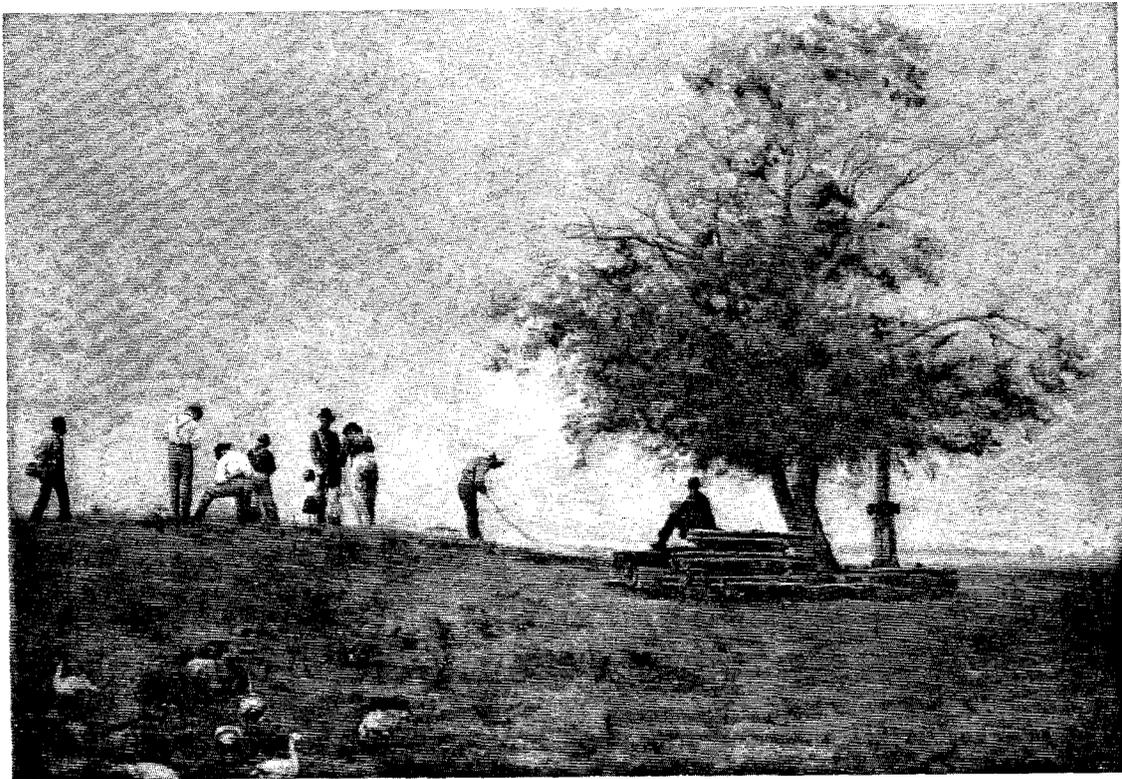


Figure 30: "Mending the Net," Thomas Eakins, 1881. Continual maintenance of nets was imperative to good business thus nets were periodically inspected for tears and holes . This painting, which made use of several photographic studies of fishermen and landscape, illustrates the involvement of all family members in the mending process. Source: Fried, *Realism, Writing, Disfiguration on Thomas Eakins and Stephen Crane*, p. 83.

one of the fish stands run by young boys. The small operations were a way for the children to participate early in an occupation they would likely be involved in as adults.

Little documentary evidence exists to describe fish houses and fish stands. No historic examples of these structures are known to exist; any structure that may have housed this type of business should be carefully inspected for further clues to the activities carried out within the building and to provide information to establish criteria for evaluation of such resources.

**Fishing Rights.** One of the associative property types related to fishing is that of the areas of the river or creeks claimed by individuals for fishing. Owning property that fronted along the Delaware River entitled the owner to certain fishing rights in the river. This is evident in real estate notices appearing in the *Delaware County Republican*:

I will sell at public sale . . . a certain MESSUAGE OR TENEMENT, and all that certain Fishery and the right and privilege of fishing in the River Delaware from the point where the road called the river road joins the said river to the mouth of Darby creek, in the said township of Tinicum, together with the uninterrupted right and privilege of hauling, drawing and drying seines and nets upon the shore of the said river, from the place of beginning to the place of ending, and also the right of occupying with fishermen, seines, nets, boats, cabins &c., such space of ground from the said river shore, which is or may become necessary at all times, for fishing, hauling, drawing and drying seines and nets, and erecting cabins, &c., upon said ground covered with water, be the same more or less, with the appurtenances. This fishery has heretofore been regarded as a very valuable shad fishery, and is situate about four miles from Chester and about seven from Philadelphia.<sup>47</sup>

Some leases of farm land that fronted certain waterways specified the use of fishing areas. When John Dickinson leased his farm on the St. Jones River he reserved the "priviledge & Right of fishing in the Creek running by the premises...& of building Stages & drawing Net on the Shore of the premises" to himself.<sup>48</sup> When multiple fisheries were found on a single property, the excess was often rented: "The Fishery on this part of the estate is deemed the best on the Western Bank of the Delaware below Philadelphia, and has been rented for One Thousand Dollars per annum."<sup>49</sup> Some sites included the use of a wharf, a fishing cabin, and/or a fish house, such as "a frame tenement or Fish House, about 18 feet deep by 20 feet long."<sup>50</sup> . One advertisement described a 56-acre farm, in front of which "in the river Delaware is a valuable fishery, for herring and shad, which has been fished with advantage for a number of

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<sup>47</sup> *Delaware County Republican*, 19 January 1866.

<sup>48</sup> John Dickinson Papers, File 47 #26, Delaware State Museums.

<sup>49</sup> *Delaware County Republican*, 15 November 1825.

<sup>50</sup> *Delaware County Republican*, 9 July 1847.

years, attached thereto is a commodious fish house."<sup>51</sup> Properties that were located close to a city could support a market on the premises.<sup>52</sup>

Specifically, the area assigned to a particular person for fishing rights is eligible for the National Register as an historic site if the evidence from the documentary sources is still visible on the landscape. The documentary source should identify the area used for fishing and relate it to physical landmarks such as natural landscape features or to structures. This type of resource will exhibit more significance if it is associated with other marshland resources, such as the house of a fisherman who "owned" the fishing rights, or as part of an historic district with a focus on fishing.

### Turtle Trapping

Hunting for snapping turtles, or snappers, was a common activity among Delaware estuary residents during the spring and summer seasons. While there are no property types in the form of buildings related to this activity, there are objects such as boats and fykes that should be considered property types. They provide an important link between the maritime culture and the natural environment.

Turtle trapping occurred primarily as a seasonal activity and as a supplement to other fishing and trapping processes. There was no fee for turtle trapping in Delaware's state-owned marshes and it often occurred on weekends. Young people would start trapping to make extra money or for the sport of hunting. The meat from the turtles was a local delicacy used primarily in soups.<sup>53</sup> Large sea turtles were also used for food when netted by fishermen. In 1866 the *Delaware County Republican* reported that:

A colored man named Pryor, while fishing for sturgeon, in the Delaware off this city, caught a sea turtle weighing fifty pounds. It is not often these inhabitants of salt water get so far from their native element. The turtle was purchased by Edward M. Lyons of the Central Restaurant, in Market street, who has provided for it a vessel of fresh water, in which it will be able to regale itself for a few days. Those who desire to see this curiosity--for it is a curiosity to many--can do so by calling at the restaurant. Mr. Lyons will serve up his turtleship, on Tuesday next, in the shape of a free lunch, to which he extends an invitation to all who may desire to partake.<sup>54</sup>

Two basic methods were employed for hunting snapping turtles; they could either be probed in the mud and brought up with a snapper hook, or trapped in fykes. The first method required a long pole

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<sup>51</sup> *Delaware County Republican*: 4 February 1834, 2 October 1835.

<sup>52</sup> *Delaware County Republican*, 30 December 1842.

<sup>53</sup> Material for this section comes in part from a series of taped oral interviews with present-day turtle trappers Edward Blackburn and John Wipf, 27 April 1980, Raymond Jester.

<sup>54</sup> *Delaware County Republican*, 20 July 1866.

fitted with a metal hook at one end and was used in both warm or cold weather. The hunter would search in the shallow mud around a marsh for tracks or the protruding head of an animal. Once he located a potential site, he used the pole to probe the mud for the shell of a turtle. A hollow sound indicated that the metal had struck the turtle's shell, and the hook was used to pull the uninjured animal to the surface. The turtle was then carefully placed in a container and kept alive until the trapper was ready to sell it or clean it. During the winter, this process was called "proggering;" progging for turtles required the hunter to be extremely adept at feeling the shell beneath the mud where the turtle was hibernating, and at hearing the sound of the metal hook touching the turtle's shell.

Ike Cleaver preferred probing for turtles in the mud with his hook, a hooked steel shaft approximately a third of an inch in diameter and a yard long fastened into an eighteen inch wood handle. Mr. Cleaver would go out in the spring when snapping turtles began to "come out of the mud." His standard equipment included his bag, hook, and a ball of string used to "bridle" the animals thus preventing them from biting him. A boat was considered unnecessary unless he planned to go snappering in someone else's marsh. The largest catch Mr. Cleaver ever made was thirty-six turtles in one day and a total of eighty-eight in three days.

A second method was known as "fyking" and involved trapping the turtle in a special net, or fyke. These nets were made by hand with great precision out of "fisherman's bend" knots set in a 3-inch mesh.

The classic turtle fyke is a barrel-like affair composed of oak, hickory, or grapevine hoops set in a net. It has a funnel-shaped entrance leading to a bait box strung up in the receiving area....the fyke is set with the entrance under water and the top above water, to keep the turtles from drowning. The funnel mouth is downstream and downwind to aid the turtle's entry into the trap.<sup>55</sup>

Once the fykes were assembled and ready for deployment, Mr. Morris explained he would, "stretch them out with a stick, put the bait in one end and the weight at the other to allow it to swing in the tide," with one end marked by a line and buoy. Fykes could be set individually or in a run or string with an anchor at one end, single connecting line and a float marker at the other end. This type of trap had to be precisely staked and checked often since the turtles could drown in the trap if they remained in it through a tide. Rising tides could fill the fyke with mud that would suffocate the turtles. Turtles that were caught dead could not be eaten and were considered useless. Carl Morris was aware of Ike Cleaver's preference for hiking into the marsh and probing up the snappers from the ditch bottoms, but according to him:

I never could see that. I went two or three times, and one day I went I caught three bags full and had to load them across that marsh to shore and it was hot...it's easier just to sink the nets from a boat up in the ditches and bait them and stick them back.<sup>56</sup>

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<sup>55</sup> Mary Hufford, "Snappers and Snappering," in *Delaware Estuary*, p. 104.

<sup>56</sup> Interview with Carl Morris, Port Penn, January 1976, Bernard L. Herman and David G. Orr.

Getting turtles out of a fyke was more difficult than getting them in and each trapper had his own favorite method. These included temporarily stunning the turtle with a blow to his nose from a hammer, or dumping several out on the ground and following them around until the trapper could grab the turtle's tail (Figure 31). Asked if he ever practiced bridling his catch to prevent the turtles from biting him, Mr. Morris replied, "Just bagged them up...sold them alive." Once the turtles were out of the fyke and under some form of control, they were placed in a storage tank of some sort until the trapper was ready to sell them.

Ike Cleaver and his wife cleaned the turtles for local market by first cutting off the heads on a wooden block in the yard and then tilting the carcasses up on edge against the wall of his muskrat house to let the blood run out (Figure 32). When fully bled, the turtle was scalded in a vat of boiling water and, with a penknife, subsequently skinned and dressed. The shell was set aside and saved. After the turtle meat had been completely cleaned and prepared, it was placed back in its original shell, packed in ice and trucked to market in Wilmington. Diamond back terrapins were similarly prepared except that they were first boiled alive and then cleaned.

Fluctuations in the market price determined just how much time could profitably be directed towards snappering. At one time snappers sold for thirty-five cents a pound, then the price dropped to ten cents, until the buyer finally accounted he would not pay any higher than eight cents. Ike Cleaver recounts, "I said to myself, 'Damn if you get any more snapper from me. I won't carry them off the marsh for eight cents a pound.' So that was the end of him." Mr. Cleaver also narrated an anecdote about the ever hungry local preacher out to cadge a free bit of wild game to stock his own larder:

My daddy, he had a preacher come out here. I was a young boy then. Mr. Gibbons (?), he was the preacher at Odessa. And I had a bunch of terrapins out here. I had some that came off the marsh that day.

"Well," he said, "Ike, you got any terrapins for Mr. Gibbons?"

"Yeah," I said, "I got some." He said, "I'd like some." I said to myself, "Damn if you ever get a hold of another one of these terrapin."<sup>57</sup>

Whereas Ike Cleaver sold his catch, dressed and ready to cook, at the local market on King Street in Wilmington, Carl Morris shipped his turtles on the "Tidewater Express", a seafood trucking chain making regular scheduled stops on its way north from Chincoteague, Virginia, to be sold at Philadelphia and New York markets.

Turtle trapping was considered mildly dangerous due to the belligerent, aggressive nature of the snapping turtle, whose sharp beak and strong jaw muscles could bite off fingers and portions of skin. There were a number of theories on ways to disengage the animal, including 1) laying down on the ground so that the turtle could get his footing and feel a chance to escape; and 2) forcing an object into the nostrils of the animal, one of his few vulnerable spots.

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<sup>57</sup> Interview with Carl Morris, Port Penn, January 1976, Bernard L. Herman and David G. Orr.

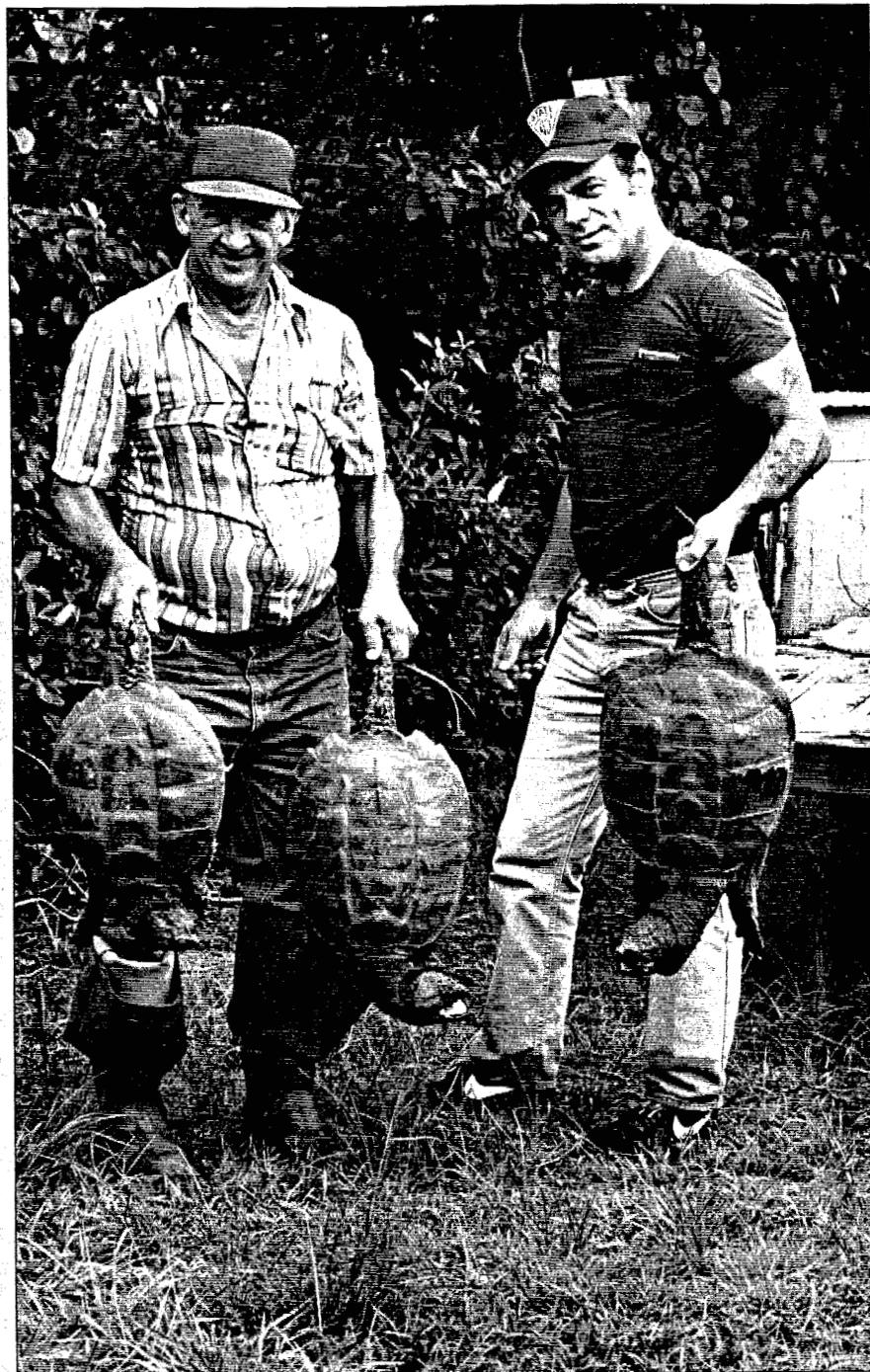


Figure 31: "Feisty turtles from New Jersey marshes. Herb 'Snapper' Misner (left), from Medford, and Ray Drayton, from Vincentown, with the day's catch. Photo by Dennis McDonald, courtesy of the American Folklife Center." Source: *Delaware Estuary*, p. 105.



Figure 32: Two Hancocks Bridge fishermen with trapped snapping turtles. Note that the turtles are bridled to prevent them from biting their captors. Photo: Port Penn Interpretive Center collection.

Shad fishermen sometimes caught diamond-back terrapins and stored them live in the open s boards. "Well, well," Fithian is reported to have exclaimed, "I got me some more of them cabin rats." The other cabin owners lamented that they too had picked up a number of cabin rats and all agreed that it had been a "bad" season for "cabin rats."<sup>58</sup>

### **Property Types for Turtle Trapping**

While there are no buildings related to turtle trapping, there are a number of structures, objects, and landscape elements that may survive as property types. These include fyke traps, probing/progging poles, boats, storage tubs, and butchering areas.

**Turtle Fyke Traps.** A fyke is a cylindrical fish trap fashioned in a series of compartments. At one end is a funnel-shaped opening through which the fish or turtle enters; the animal then swims through a second funnel opening and into the third compartment which contains the bait. The back of the third section, tied shut with a string, and the multiple inverted funnel entrances make exit almost impossible, thus effectively trapping the catch inside the fyke. A variation within this basic form is the catfish fyke, which requires three entry compartments, but no bait. The diameter of the fyke is determined by the quarry, with eel fykes being the smallest and snapper fykes the largest in circumference. The materials of a fy ke woven by Carl Morris were of plain nylon netting worked around a rattan frame. Mr. Morris commented he used to knit his own nets, but it was now too time consuming to be practical. He also noted that in localities where fykes were still used in Maryland the makers employed riven oak hoops instead of rattan.

The fykes were made by hand by the trappers, even as young children (Figure 33). Like many of the elements of this context, they constantly required repairs and over the years what was ostensibly the same net was actually made of entirely new materials.

**Probing Poles.** A probing pole was a long pole fitted with a metal hook at one end. It was used to search for turtles in the mud and pull them to the surface. A probing pole would also be considered a progging pole in the winter.

**Boats.** Boats used for turtle trapping in the marshes and setting fykes in this period included skiffs, bateaux, and other flat-bottomed boats. These boats are described in more detail earlier in this chapter under property types related to fishing. A distinguishing characteristic of boats used in turtling is their flat bottom. Since turtling was done in the marshes, boats had to be constructed in a way that would allow them to be used in shallow water. The flat bottom also ensured the stability of the boat, allowing the waterman to stand while working. Alteration or removal of the flat bottom of a boat used for turtling will make it ineligible for listing as an example of the property type "turtling boats." If the boat was modified for use in another historic activity, it may still be eligible as an example of that property type.

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<sup>58</sup> *Floating Cabins on the Delaware River*, p. 8.



Figure 33: Carl Morris knitting a fyke at his home in Port Penn, New Castle County, Delaware, January 1976. Fykes were traditional cylindrical fish traps constructed of varying mesh widths (depending on the prey) with round oak or rattan hoops. The fyke consisted of an extendable body with a funnel shaped entry. Lured into the fyke, the prey could not easily find its way out again. Photo: Bernard Herman.

**Storage Tubs.** Storage tubs were used to keep the turtles alive for the market. Trappers used anything available that would hold enough water for the turtles, even old bathtubs. Identification of these resources would probably rely on oral history and would only be eligible if nominated within a group of related resources.

**Butchering and Cleaning Areas.** This property type is the most ephemeral in nature of all those related to turtling. These areas were often just a space of ground near the trapper's house; once the blood and turtle remains were washed away by a hose or by rain, there was no trace left of the activity.

### Muskrat Trapping

Trapping was a traditional activity for many inhabitants of the Delaware estuary. The trapping of muskrats was particularly popular, dependable, and profitable. Traps were also set for otter, raccoon, fox, skunk, and opossum. There are two important physical property types linked to muskrat trapping: the muskrat skinning shed, a small building used for processing the meats and skins of freshly trapped muskrat; and the trapping marsh itself.

The proceeds from muskrat trapping represented a mainstay in the domestic economy of farmers along the Delaware River wetlands. Trapping was an integral part of the marshland economy as early as the eighteenth century when tanneries were established along the banks of the Appoquinimink Creek and in nearby Middletown. Now regulated by law, the muskrat season runs from the first of December to the tenth of March except on the inside marsh where it continues for an additional ten days. Marshlands are either rented on an annual basis to an individual trapper, or more frequently, trapped by the farmer who owns it, as an extension of his farming activities.

Interviews with modern trappers yield information about how the muskrat was caught. With the exception of a more humane type of instant-death trap, trapping techniques have changed very little. After searching the marsh for signs of the muskrat--food, houses, tracks, or droppings--the trapper set his trap near the hole of the muskrat house or in an established food run during low tide (Figure 34). The earliest type of traps were leg-hold traps, which caught the muskrat by the foot. If the animal did not escape, he would drown as the tide came in. The trapper collected the animals when he next checked his traps. Depending on the depth of the water and the type of marsh, trappers either walked or used boats to set and check their traps (Figure 35).

Preparation of the fur required skinning the animal, removing all the fat, then stretching the fur inside out over a wooden stretcher to create a uniform shape and to ensure proper drying. Stretchers were built in different sizes to accommodate muskrats, otter, or raccoons, which were sometimes caught in traps and processed at the same time. Muskrat stretchers were sometimes placed on the interior of the skinning building for the drying process. The loft of Clem Sutton's skinning shed could contain hundreds



Figure 34: Muskrat trapper checking his traps adjacent to muskrat house in the Delaware City marsh, New Castle County, Delaware. Winter 1979-80. Photo: John Carter III.



Figure 35: Joe Beck setting or checking trap from bateau (mid twentieth century). Note the use of thin, flexible stakes identifying the location of the trap adjacent to the muskrat house. Photo: Bob Beck collection.

of stretchers suspended from the ceiling (Figure 36). Once the furs had dried, they were sold to fur dealers in Wilmington and Philadelphia, who sold directly to furriers in America and Europe.

The muskrat meat was also harvested and sold, or prepared by the trapper. It was most commonly parboiled and then fried. Muskrat feasts were a common event during the trapping season and served as a social event. These types of feasts still take places in various towns along the Delaware River.

Ike Cleaver began trapping his father's marsh as a boy, starting on the "little marsh" bordering the fields just below his house and moving on to the "wild marsh" further out. The mechanical traps were set out along the myriad muskrat runs traversing the marsh, and each one marked with a tall, slender pole cut from a sapling. Every day of the season the trapper had to walk his trap line to gather his catch and reset the traps sprung during the previous twenty-four hours. As his catch began to fall off in one area he would move his stakes and traps to other runs and lay out a new trap line. The standard working gear for a trapper consisted of a heavy gunning coat, hip boots or waders and a small rope and needle for stringing the catch. The traps employed in the Delaware estuary in the twentieth century are all factory-made spring traps. These may be sub-divided into two groups: the stretcher traps characterized by steel jaws opened up over a long wire horseshoe-shaped device which, when the trap was sprung, came across the closed jaws pushing the animal away from its pinned limb thus effectively preventing it from wringing or gnawing itself free; and the "Conibar" which slams shut without a stretcher, but effectively kills the muskrat within minutes. The advantage of the latter lies in its ability to catch more rats per trap tripped than any of the other factory made brands, while the virtue of the former is that it keeps the animal alive until the tide rises and drowns it thus preventing house rats from feeding on the carcass and ruining the meat and pelt. Although the "Conibar" is the most widely used trap today, the older trappers continue to prefer the long spring or stretcher variety.

As the trapper checked his line he would stuff his catch into the large game pockets of his gunning vest until they were filled, then he would stop by a creek, take out the rats, wash them and finally string them together and carry them looped around his shoulders:

Sure, on a string. You have your vest. You fill your vest up, when your vest gets full you take them and string them and throw them on your back. String them...through the left leg plumb up against one another (Figure 37).<sup>59</sup>

Musk rats were never to be carried in a sack because it would cause the rats to bump around and the meat to discolor around the abdominal cavity. Once the rats were taken back to the muskrat house each rat was laid on its back in preparation for skinning and dressing. The rats to be dressed were hung hind feet up, abdomens cut out on the skinning board and their hides stripped with three special handmade knives (Figure 38). The pelt was then pulled over a curing board and air dried--a process still practiced in the

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<sup>59</sup> Interview with Ike Cleaver, Port Penn, January 1976, Bernard L. Herman and David G. Orr.

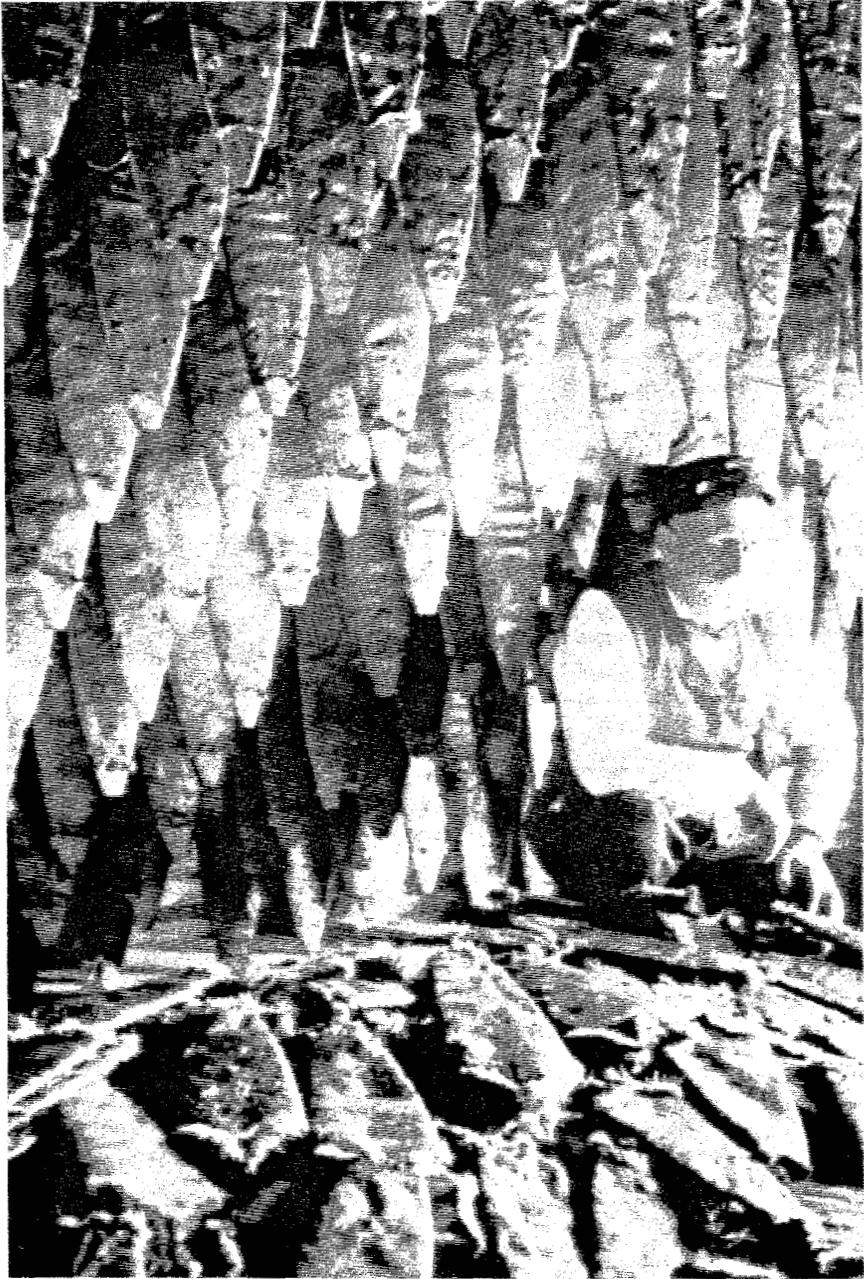


Figure 36: Muskrat stretchers hanging in loft of skinning shed, Salem or Cumberland County, New Jersey, circa 1890. Photo: Clem Sutton collection.



Figure 37: Ike Cleaver with muskrats harvested from his trapping ground (mid-twentieth century), Odessa vicinity, New Castle County. Note the muskrat string and Cleaver's shed in the background. Also note Cleaver's clothing including wading boots and trapping coat. Photo: Port Penn Interpretive Center collection.

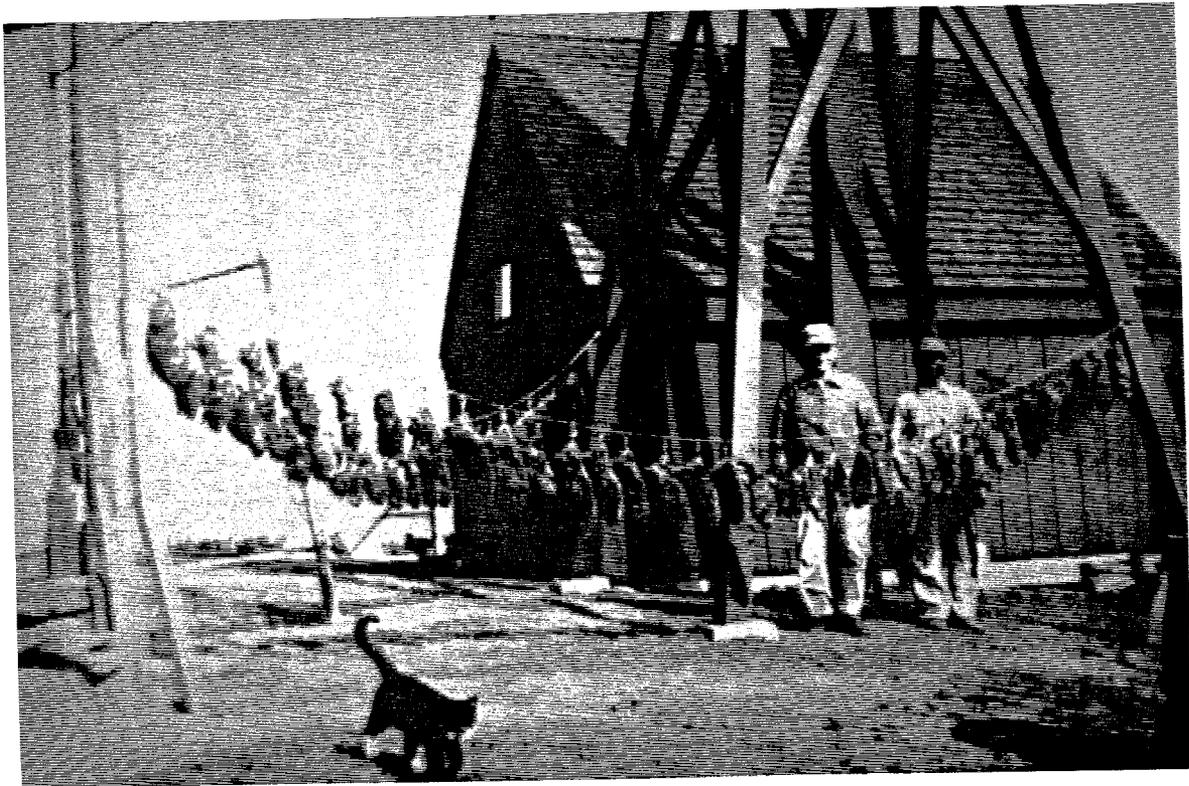


Figure 38: Ike Cleaver with harvest from his muskrat trapping ground, standing in front of his skinning shed (mid twentieth century). The name and role of the individual to Cleaver's right is unknown. Photo: Port Penn Interpretive Center collection.

Southern Appalachian highlands--and the meat cleaned and packed for market.

Dangers to the muskrat trapper were primarily either falling on the ice and breaking a leg or slipping into the channel and drowning while washing the catch for stringing. Describing the hazards involved, Ike Cleaver explained:

Well, falling down, breaking a leg. You get close to the creek side when you're washing a rat off and you fall overboard. We lost a man in Blackbird Creek. We think that's the way he died because he had gunning coat on and muskrats in the gunning coat...You get close to the edge and the edge will crack off and the current runs underneath it; and we think that's why he drowned...I've fallen down many a time, but I just get up and go on.<sup>60</sup>

With an awareness of the dangers of the marsh in the winter was a complementary intimate knowledge of the ways of the muskrat and how to stalk it: locating the runs, observing its habits and tracing its movements below the surface of the ice. Almost everyone interviewed claims there are fewer rats living in the marshes now than in previous years. While heavy trapping may have taken its toll--Ike Cleaver, for example, with the help of a hired man, took 5500 off his marsh alone in a single season--most local residents blame the decline on the appearance of feathergrass in the wetlands, which has all but choked out the native cattail. Mr. Cleaver remembered the physiognomy of the marshes of southern New Castle County before the takeover of feathergrass:

...Delaware City marsh on the Bank Meadows, that's all they had was cattails. You never seen anything like them [muskrat] houses--beautiful houses. They was like hay stacks...and muskrats jumping from one to the other...they had so many muskrats, why it'd freeze up there and they's still got them.<sup>61</sup>

Of all aspects of life and work on the water, only muskrat trapping with its accompanying lore and material culture continues as a vital element in the agrarian-maritime domestic economy of the Delaware estuary.

### **Property Types for Trapping**

**Muskrat Skinning Sheds.** The skinning shed was usually located on the property of the trapper, but some have been located in the marsh where trapping occurs. A shed located on the trapper's property may not have been built specifically for the purpose of processing muskrats, but was converted to such use. The wood frame building is usually small, approximately 16 feet by 16 feet square, and one story high. Inside the structure various instruments could be found to assist in the preparation of the skins: traps, knives, a table, shelving and stretchers for drying the skin (Figure 39).

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<sup>60</sup> Interview with Ike Cleaver, Port Penn, January 1976, Bernard L. Herman and David G. Orr.

<sup>61</sup> Interview with Ike Cleaver, Port Penn, January 1979, Bernard L. Herman and David G. Orr.

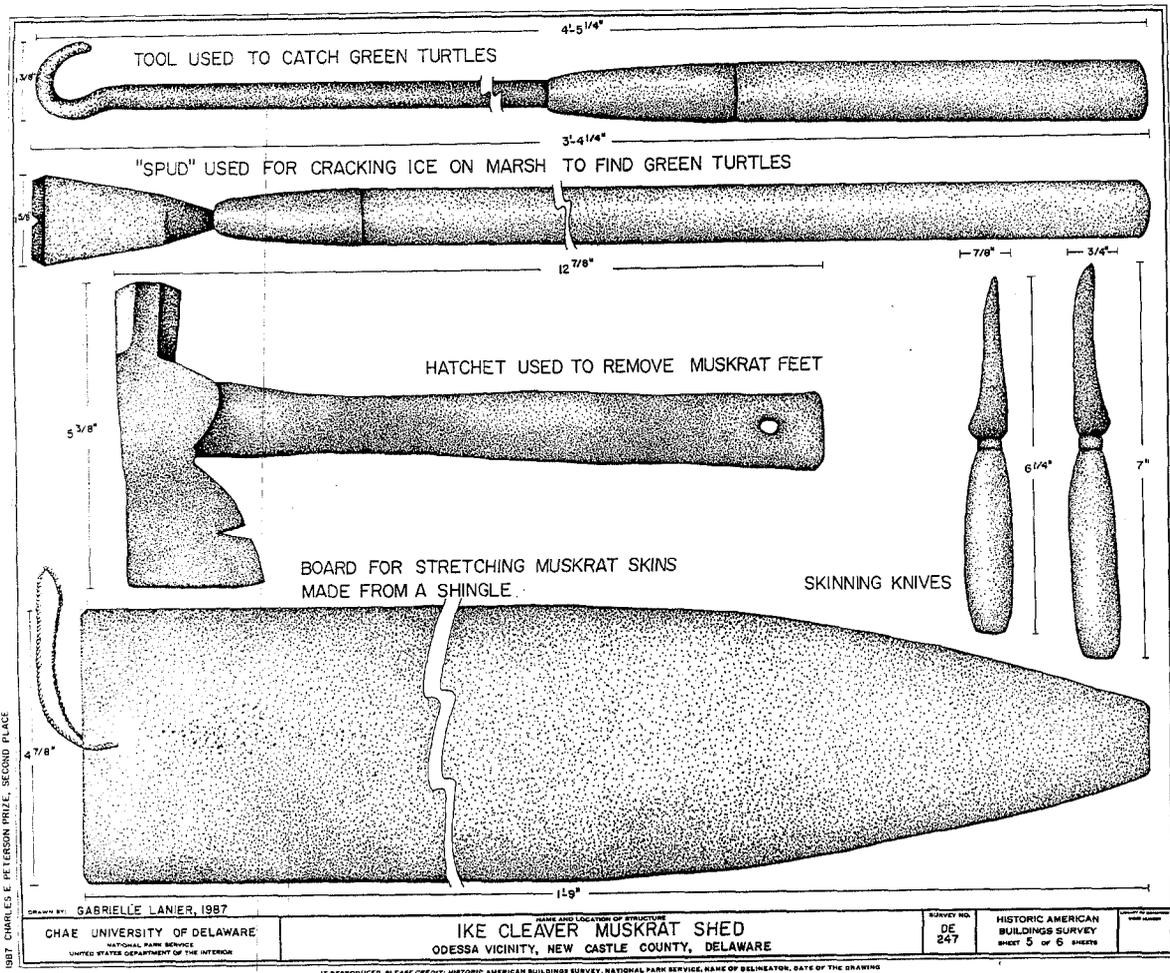


Figure 39: Trapping, skinning, and turtling tools associated with Ike Cleaver's trapping marsh and skinning shed. Drawing: Center for Historic Architecture and Engineering, HABS, Gabrielle Lanier, 1987.

Ike Cleaver's muskrat house was a converted smokehouse of hewn timber framing and sheathed with vertical board-and-batten siding (Figure 40). The interior was furnished with a work table, stretching boards (for curing muskrat pelts) piled in the rafters, a skinning board, refrigerator, bench and sundry tools necessary for trapping and dressing both muskrats and snapping turtles (Figure 41).

Two known muskrat skinning sheds are still in existence within the context study area. Other sheds likely exist, but have been converted to alternate uses such as smokehouses or storage sheds.

**Muskrat trapping marsh.** The muskrat trapping marsh was owned by a landowner and either trapped by the owner or leased to another trapper. Some marshes were worked by multiple trappers, who worked on an honor system of not taking another's catch. The privilege of working the area could be extended to include other types of trapping--such as otter, raccoon, and fox--turtling, wildfowling and fishing. Ike Cleaver mapped his trapping ground in detail, showing waterways, muskrat houses, and areas that were likely to be flooded at high tide (Figure 42).

Integrity of a trapping marsh is defined almost solely by its use. When it ceases to be productive tidal wetland that is economically viable for trapping, it loses its integrity. While the eligibility of a marsh as a single cultural resource may be difficult to justify, it may be eligible as part of a district that may include such cultural resources as the trapper's home, skinning shed, and/or trapping boat.

### Wild Fowl Hunting

Wildfowling--hunting migratory ducks, geese, and shorebirds for sustenance, market, and sport--has been a part of Delaware river and bay culture for thousands of years. With its vast salt and fresh water marshes, the Delaware coast continues as a major resting, feeding, and nesting point in the Atlantic flyway. Each year hundreds of thousands of migratory wildfowl visit Delaware's marshes and uplands (Figure 43). For much of the 1830-1950 +/- period covered by this historic context, those birds represented a valuable, seemingly endless source of food, feathers, and cash. The sheer variety of wildfowl species made hunting in the marshes a popular activity--both for sport and commerce--throughout the time period covered by the marshland cultural resources historic context. The art of luring, shooting, trapping, and otherwise harvesting wildfowl produced a complex material culture. The historic property types associated with wildfowling ranged from seasonal hotels catering to visiting "sports," such as the now vanished Hygenia House north of Leipsic, to gunning blinds made of thatched reed and mounted precariously on pole pilings in the marsh. Associated with these buildings and structures is a diverse, often ephemeral array of artifacts without which wildfowling could not have taken place.

Essential to an understanding of the functional and associative property types related to wildfowling is at least a rudimentary sense of species and habitat. Three basic types of habitat describe

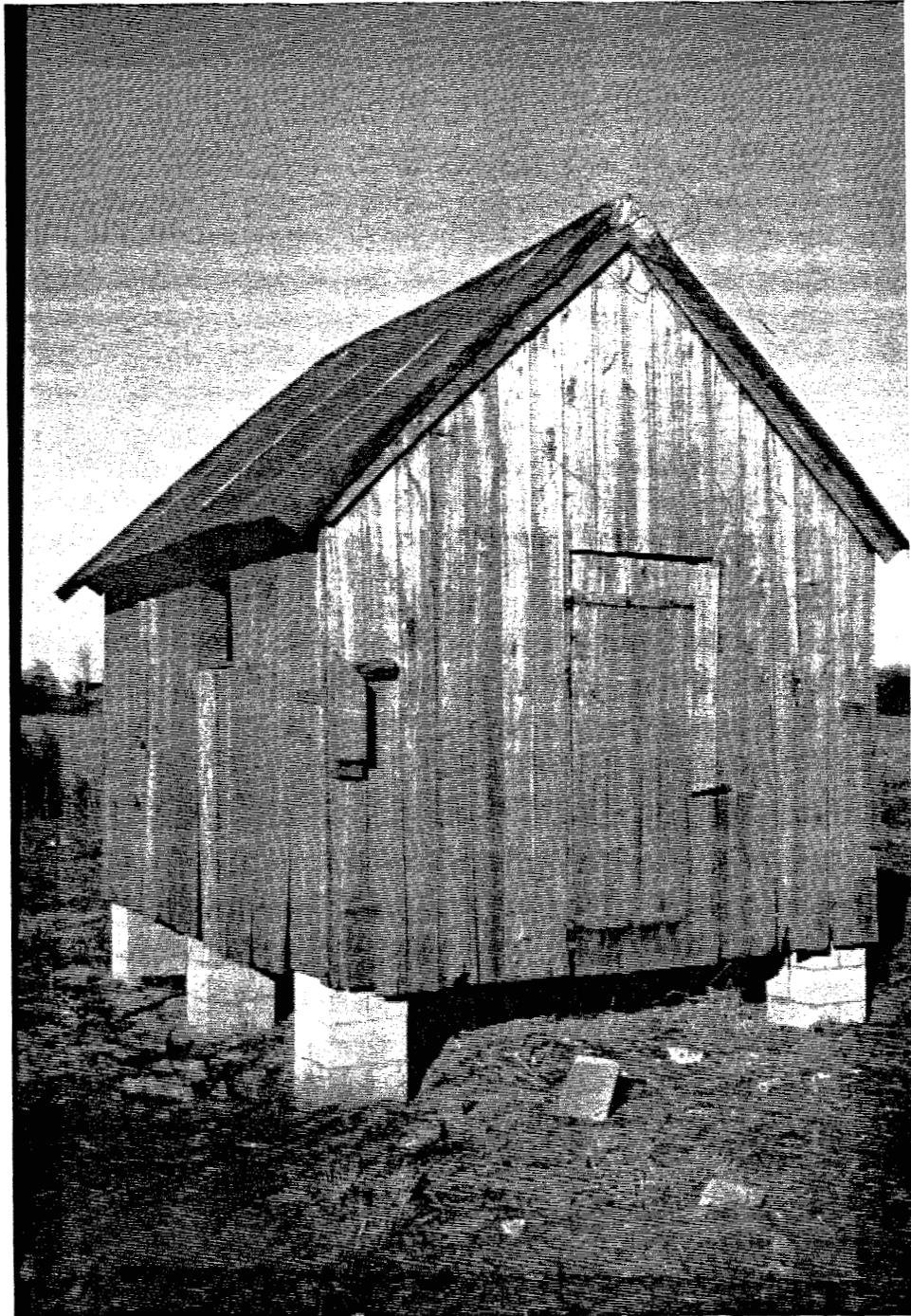


Figure 40: Muskrat skinning shed currently located at Port Penn Interpretive Center. Typical of most extant Delaware skinning sheds, this moved example was converted from its original use as a smokehouse. Photo: 1992, Bernard Herman.

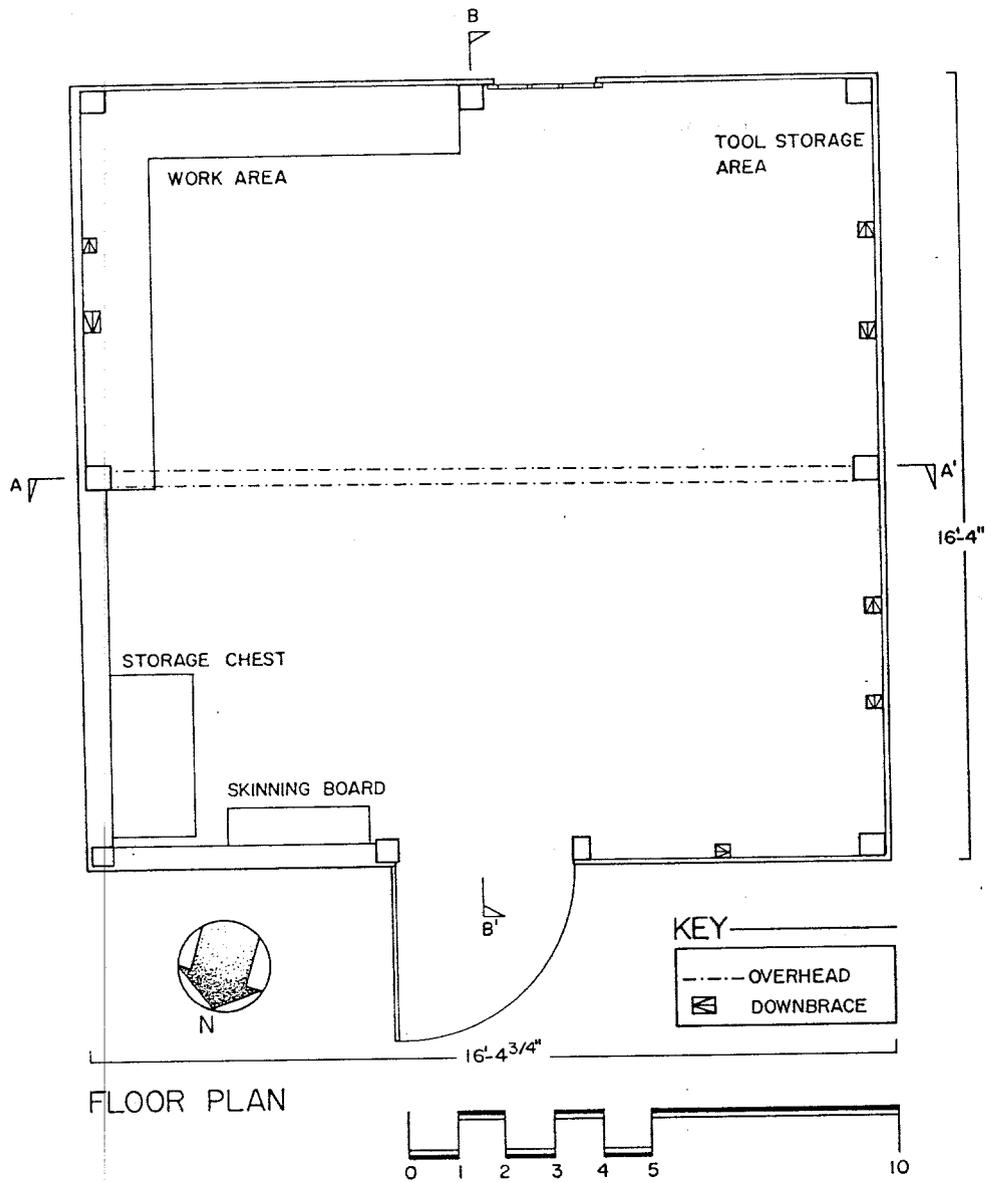


Figure 41: Floor plan of Ike Cleaver's skinning shed showing work areas. Drawing: Center for Historic Architecture and Engineering, HABS, Gabrielle Lanier, 1987.

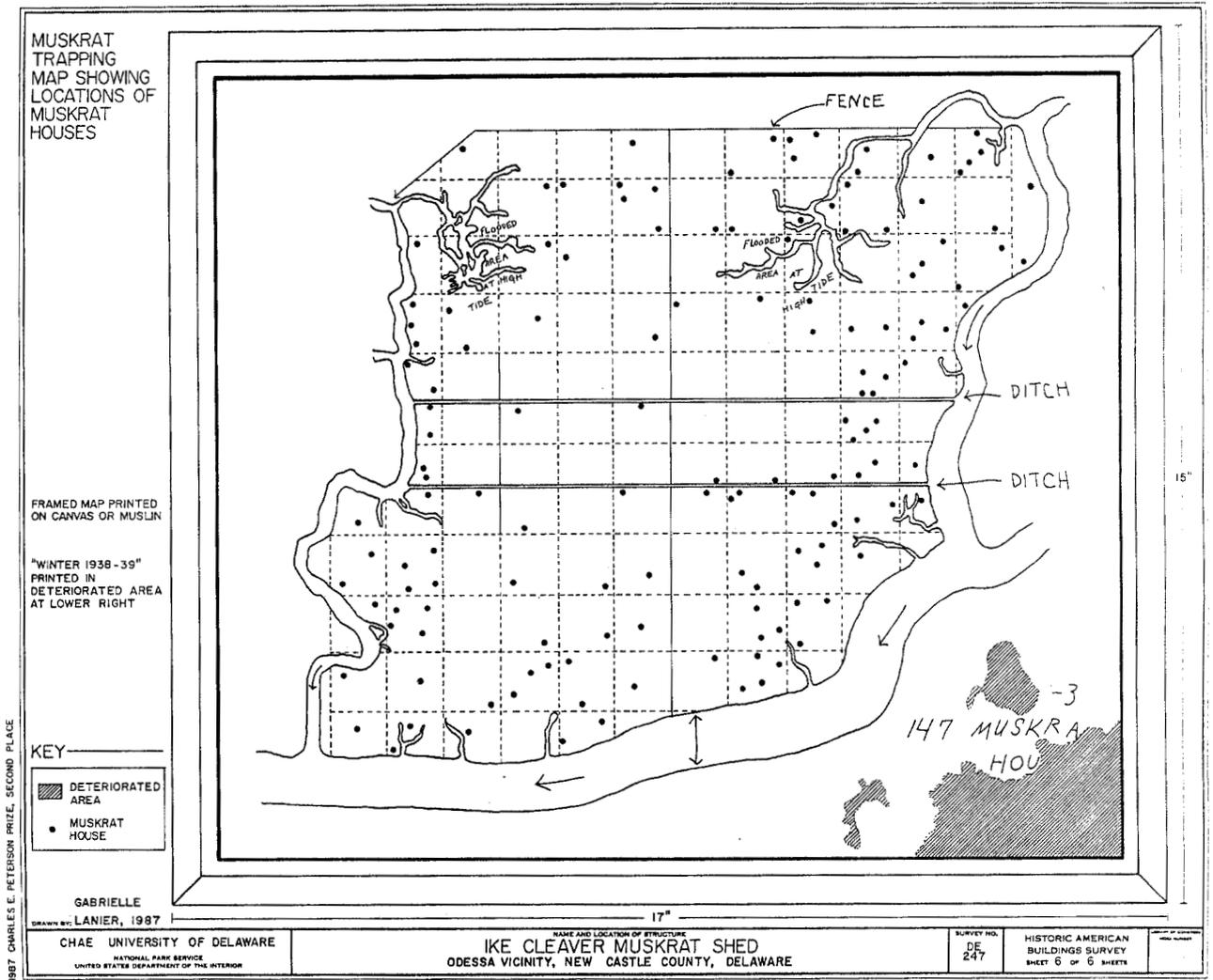


Figure 42: Canvas map of Ike Cleaver’s trapping marsh. Pinned to the wall of his skinning shed, Cleaver’s map recorded the location of all the muskrat houses in his marsh for the winter of 1938-39. Note that Cleaver has gridded his marsh to locate the muskrat houses. Drawing: Center for Historic Architecture and Engineering, HABS, Gabrielle Lanier, 1987.



Figure 43: Snow geese settling into a stubble corn field, St Georges Hundred, New Castle County. The intensification of corn and grain cultivation and waste from mechanical harvesters spawned a mid- to late- twentieth century historic rise in the snow and Canadian goose populations along the Delaware. Photo: circa 1985, Bernard Herman.

the native context for wildfowling: freshwater marshes, saltwater marshes, and open water. Different species of wildfowl occupied the several different types of natural habitat afforded by the Delaware. In the Port Penn area different species flocked to the fresh water marshes, the tidal marsh, and the open river. Freshwater marshes, like Thousand Acre and Dragon Run, were more desirable to wildfowl for the richness of natural food; saltwater marshes offered birds less culinary diversity. But, the quality of habitat from the birds' point of view improved dramatically not just between inner freshwater and outer saltwater marshes, but also as they moved northward up the Delaware estuary. Farther north falling salinity produces high quality wild rice marsh. Even the open river becomes more desirable farther north in its less saline environments. Simply, the farther north, the greater the diversity of foodstuffs including cattail, wild rice, wild millet, saltwater hemp, or polk, found along the Delaware.

Each species possessed its own level of desirability for hunting based on attributes ranging from sport to edibility. Each species and its environment also inspired different techniques, objects, and strategies for their hunting. From the late nineteenth through the mid twentieth century black ducks ranked as one of the most sought after waterfowl species. By the early twentieth century hunting mallards gained in popularity. Wild mallards appeared in the Delaware marshlands as the descendants of imported and penned English "callers" or live decoys which had been released or escaped from captivity. On impounded (diked and man-made) and native freshwater marshes, the most popular quarry was pintail along with green winged teal, widgeon, and gadwall. Less popular, due to their tiny size and general friendliness, were ruddy ducks which tended to congregate in the extensive marshes closer to Philadelphia. Diving ducks, such as canvas backs common on the Susquehanna and upper Chesapeake, were rarer on the Delaware. Open water ducks like the canvas back, scaup, redhead, and white winged scotter tended to be more frequent around the lower Delaware River and Bay. Mill ponds located at the headwaters of freshwater streams draining into the marshes provided habitat for species like ringneck ducks that were not hunted too heavily.

The rise in Delaware's goose population and in goose hunting is a recent phenomenon related directly to the effective manipulation of crops and the migratory wildfowl flyway. Seventy years ago, according to Carl Morris, shooting a wild goose was comparatively rare. The geese of the Atlantic flyway simply bypassed Delaware en route to their winter feeding grounds in eastern North Carolina. Delaware recreational and tourism planners, however, saw enormous economic potential in goose hunting if only they could induce the birds to stop in Delaware on their southern flight. As Bob Beck relates the resulting strategy, a plan was implemented in the 1950s and 1960s when crops like corn were planted. At the end of the growing season these crops were left in the fields and provided an effective lure for geese. Over time increasing numbers of geese stopped and even wintered in Delaware during their southern migration. The broader shift in Delaware agriculture toward an emphasis on grains completed the alteration in the Canada goose migration and sparked the development of a major sport hunting industry.

Each species and each habitat directed the development of different variations in boat and blind design for hunting. Wildfowl gunning blinds were common for taking ducks over both fresh and salt water marshes. Marsh blinds tend to be rectangular structures ranging from five to seven feet deep, five to six feet tall, and eight to twelve feet in length (Figure 44). Whether built on slender pilings or poles set in the marsh bottom or framed on wooden skids that enable the structure to be dragged across the marsh, blinds are built of lightly framed, post-and-rail construction and then covered with a thatch of native reeds or other material to suggest a stand of grass. The blind interior may be loosely floored and contain a single bench for the hunter. When in use, the blind conceals the hunters. The hunters inside the blind use calls to “turn” flying birds and decoys to lure them into shooting range. Similar constructions and practices are used for goose shooting over the winter fields that form the high country around Delaware’s marshes. Goose shooting blinds also include similarly dimensioned “pit” blinds. Pit blinds are literally excavated rectangular pits with wood sides. Not all blinds are necessarily such formal constructions. Evidence exists for hunters simply hunkering down by a creek bank or field edge and pulling loose brush over their bodies until opportunity presented itself in the form of birds landing among their decoys.

Not all duck hunting involved the use of blinds. Specialized watercraft and the use of live and wooden decoys afforded the means to pursue many species. Hunting on the Delaware “depended on small lightweight, durable craft”<sup>62</sup> such as the Delaware ducker, melonseed, and sneakbox. The decoys used by hunters reflect the same design considerations of utility and seaworthiness. “Hunting along the open waters of the Delaware Bay or in the tidal creeks of extensive coastal marshlands, the sportsman would conceal himself in his boat covered with reeds.” When the birds turned and descended to the decoys, the hunter would sit upright and shoot.<sup>63</sup> Hunting from small watercraft complicates the range of property types. A pair of stereo-opticon views of sport hunting in the Delaware Valley shows a pair of hunters with their small hunting boat--likely a melon seed or Delaware ducker (Figure 45). The boat is partially covered with marsh grass for camouflage and appears to have a rig of decoys loaded onto the stern. The hunters with their clothing and shotguns complete the image. The second view is of one of the two hunters crouched down on the edge of a marsh and taking aim on his quarry (Figure 46). Here the hunter’s place is defined by the temporary occupancy of the natural environment. Together these photographs illustrate the key point that many of the historic properties associated with wildfowling are ephemeral to the point that they may consist of no more than a hunter’s squat in a hummock. Because of their mobility, watercraft rendered any place in the marshlands a potential blind or shooting station. Shorebirds, such as plover, represented another category of wildfowl much sought after by hunters. Taking rail birds (marsh hens), as illustrated in Thomas Eakins’s paintings, was a popular pastime in the

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<sup>62</sup> Bernard L. Herman and David G. Orr, “Decoys on the Delaware,” *Delaware Estuary*, p. 101.

<sup>63</sup> Bernard L. Herman and David G. Orr, “Decoys on the Delaware,” *Delaware Estuary*, p. 101.



Figure 44: Sporting wildfowl hunters, Sussex County, Delaware, circa 1980. Seen with the two successful gunners are the objects associated with the "sport" since the nineteenth century: shotguns, hunting dress, trained retrievers, a blind, bird calls, and decoys. Photo: John Carter III.



Figure 45: Although the labels on the reverse side of these stereo-opticon views (Figures 45 and 46) do not identify the location of the photos, the marsh topography and boat suggest the Delaware or New Jersey marshes. In addition to the information contained in the captions, observe the ephemeral nature of the historic environment. Once the hunter departs his stand in "Just Out of Range" (Figure 46), little remains to define the site. Source: Bernard Herman collection. Text from reverse of photograph:

Many of the best ducking lakes and marshes in the country are surrounded for a considerable distance from the true water's edge by a bog which is mostly made up of decaying vegetable matter, with just enough water to make one believe he can push through it, but which in reality takes an immense amount of work, and skillful labor at that to conquer. It frequently becomes necessary in the more solid portions of the bogs to get out of the boat and pull it bodily over the worse [sic] places until enough water is found to permit of [sic] paddling and poling again. That these gentlemen have had a fine afternoon's shoot is evident from the pile of birds at the bottom of the boat. This poling and pulling through the swampy places at the edge of the true lake takes all the patience, perseverance and muscle that the hunter can command, and many sportsmen prefer to hire a skilled man to push-paddle the boat rather than put up with the physical exertion necessary to do their own work.



Figure 46: Stereo-opticon view of hunter in the marsh. Source: Bernard Herman collection. Text from the reverse side of the photo:

During the duck season there are days when everything seems to break wrong for the hunter. If he chooses a blind which yesterday was on the main flyway for the birds, this is the day when they will have concluded to circle clear to the other side of the lake when passing from one point to another. The why or wherefore of this apparent and almost unanimous selection of route by the ducks is not understood by mere human beings. This man, because of a poor choice, is doomed to stay in his blind hour after hour, watching ducks fly by his blind, just out of range, while only now and again a straggler offers him a shot. Again, upon a favorable day, a point like this would offer splendid shooting for hours, both morning and evening. At such times as that, moreover, nothing can prevent the ducks from following the line of flight which they have chosen and although the hunter keeps his gun hot, the birds will still continue to come.

nineteenth and early twentieth centuries. Eakins's 1874 composition, "Pushing for Rail", shows several hunting parties gunning over the high grass marshes south of Philadelphia in a scene that could be observed on both sides of the Delaware River (Figure 47). The three gunning parties in the foreground each consist of a guide and a hunter standing in a shallow draught double-ended skiff. The guides in the stern of the skiffs wield ten foot long poles with tripod bases for pushing through the marsh. The actual hunting practice was described in the *Delaware County Republican*:

Here each man procures a 'pusher,' who takes him to the gunning ground, and, at half tide, the work begins. The pusher stands on an elevated platform in the stern of the boat, and with a pole fifteen feet long, propels it through the reed. Meanwhile, the gunner, with his shooting apparatus in order, and his ammunition box well filled, takes his stand in the bow of the boat, and awaits, with poised gun, the flushing of the birds. The pusher selects the most likely localities in which the rail harbor, and when the game takes wing, gives notice to the sportsman, and the bird is killed, or suffered to go off, as the case may be. In this way some three hours are spent, and if the game is plenty, seventy five or a hundred birds are killed during the continuance of a tide. Pushing is hard work, and the pusher is often weak and weary before the sport commences. Two hours comprise all the time requisite for shooting, and the picking up of a few scattering birds, before the water is at the proper height, is no gain at the close of the tide.<sup>64</sup>

As in other forms of wildfowling there is no evidence for durable historic resources associated with the practice.

Reed bird or bobolink hunting also represented a type of wildfowling likely to leave no lasting observable evidence (Figure 48). The birds that fed on wild rice and millet in tidal marsh were shot by hundreds and made into pies. As a favored local game, the reed birds were simply shot out of the brush growing along the marsh banks and gathered up by local children. Although market gunning apparently never attained the economic status it enjoyed in the upper reaches of the Chesapeake Bay and the Atlantic marshlands of Maryland and Virginia, a few watermen in the Port Penn-Delaware City area did market hunt, most notably Sam Armstrong of Delaware City:

At the head of the Delaware Bay, market gunning was a family affair for the Sam Armstrong family. They would shoot 25 to 30 dozen reedbirds on morning and evening flights to the marshes. Generally they were shot to fall on the water for easy retrieving. Reedbirds, or bobolinks, have completely disappeared from this area. In addition to ducks and upland game, they shot 20 to 40 dozen blackbirds on a good day.

Reedbirds were picked and packed in ice for the Philadelphia markets. They were so yellow and fat, recalled Eugene Armstrong, that they looked like butterballs. Reedbirds sold for \$1.00 a dozen and blackbirds brought 25 to 75 cents.<sup>65</sup>

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<sup>64</sup> *Delaware County Republican*, 11 September 1863.

<sup>65</sup> Harry M. Walsh, *The Outlaw Gunner*, p. 65.

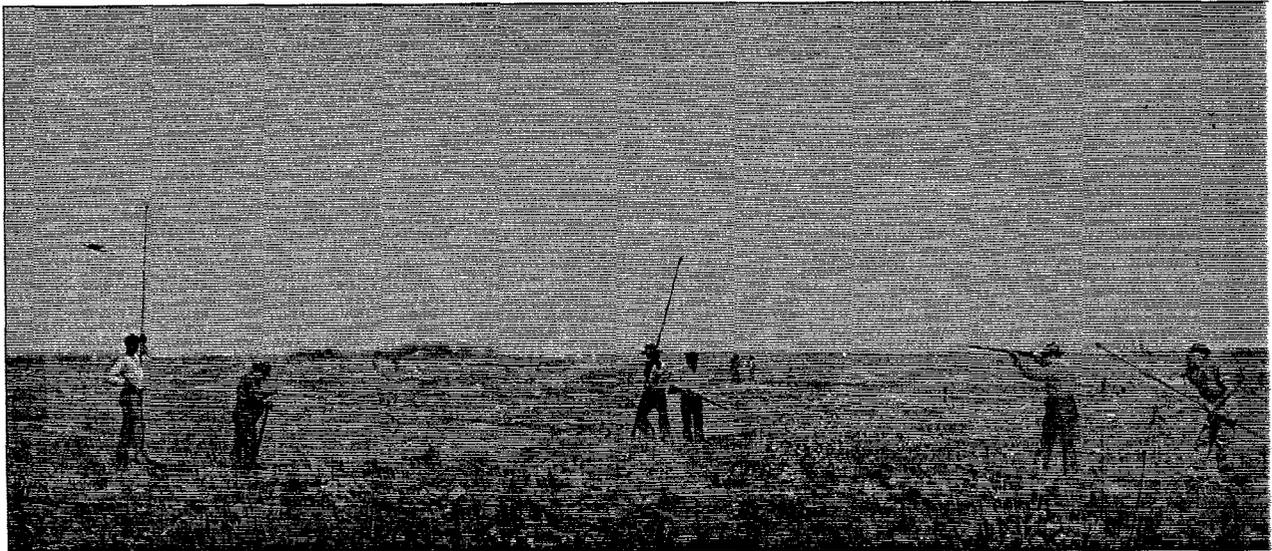


Figure 47: "Pushing for Rail," oil on canvas, Thomas Eakins (1874). Eakins' well known painting of the Delaware River marsh shows three boating parties. Each party consists of a guide and pusher in the stern of a double-ended gunning skiff and a "sport" standing in the bow. Source: *Delaware Estuary*, p. 103.



Figure 48: "The Artist and His Father Hunting Reed-birds," oil on canvas by Thomas Eakins (about 1874). Eakins' more detailed self-portrait reveals the tightly packed flora of the Delaware marsh and the effort involved in "pushing" the shallow flat bottom skiff through the reeds. Source: *Thomas Eakins: His Life and Work*, plate 9.

Sam Armstrong also used both a skiff mounted punt or "Potomac" gun and a 0 gauge shoulder gun for gunning on the open river. Armstrong's technique was documented as follows:

The technique of using these guns depended on a slow calculated stalk. Their use in the daytime was limited. When a great deal of ice was about, the hunter dressed completely in white, with a white hood and a boat covered with ice.

Mr. Sam Armstrong of Delaware Bay used this technique in a two-man clinker-built boat. He shot his gun from a half-prone position, taking up the recoil with his right hand. He called the gun his "headache gun" because he took two aspirin before firing it and two afterward. His number 0 gauge gun shot one-half pound of shot and an equal measure of powder.<sup>66</sup>

Market gunners employed punt or Potomac guns up to eight feet in length on the upper Chesapeake and to a much lesser extent on the lower Delaware River. The punt gun consisted of a long barrel mounted in a heavy truncated stock and fitted with a percussion cap firing mechanism. Too heavy to be hand held, these weapons were mounted in specially designed gunning skiffs where they were lashed into position with the stock resting in a pillow of netting or marsh grass. Loaded with up to two pounds of lead shot, the punt gun was particularly effective for night hunting. The hunter would crouch or lie in the skiff, maneuvering it into position through the use of hand paddles. Careful to keep the moon behind the birds, the gunner essentially aimed the entire skiff until the maximum number of birds were in the line of fire. Firing the punt gun produced a recoil that drove the skiff backward and caused the bow to rise up in the water. The effects of the shot were tremendous, even legendary. Some punt gunners claim single shot tolls of 40 to 50 birds, but an average of 10 to 20 geese or ducks seems more likely.

Captain Kenny Wright of Leipsic described a variation on market gunning which also involved shooting from a bateau although without the heavy artillery employed by Armstrong. In a practice known as "young ducking" the hunters would take his boat into the marshes just as the young birds were learning to fly. Clumsy in their takeoff, the birds would struggle into the air at which moment they were shot.

Gunning is now largely viewed as sport with the game taken supplementing the family's winter menu. Neither Carl Morris or Ike Cleaver, both former residents of the Port Penn area, ever gunned commercially, but their hunting activities were as much a part of their lives on the water as trapping, snappering or fishing. Both men spoke freely of former hunting companions, lucky shots, and the ongoing decline in the Atlantic coast duck population. Interestingly enough, the great flocks of Canada geese that blanket New Castle County fields in January and February are a comparatively recent phenomenon. "Very seldom you ever killed a goose," mentioned Carl Morris, "and if you did everyone around Odessa quickly heard about it." According to Mr. Cleaver there were so many geese migrating every season and extensively damaging winter fields, the Canadian government had embarked on a

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<sup>66</sup> Walsh, p. 96-97.

program of poisoning the birds to pare down the flocks. Those populations have declined dramatically and dangerously in recent years.

One particular aspect of gunning discussed by Cleaver and Morris concerns the deployment of live decoys, a practice outlawed by current statute. Live decoys were wild birds domesticated in captivity and set out in front of a blind to draw down flocks of migrating waterfowl. As Robert Beck of Port Penn recalled, live decoys were often domesticated mallards that were imported into the area specifically for hunting purposes. One or all of the decoys was tethered to a stake hammered into the creek bottom, but typical practice involved tethering only a single bird around which the others grouped themselves. Both Carl Morris and Ike Cleaver set out live birds, and each tell of a particular bird or group of birds they found especially memorable. Ike Cleaver recounted his history of "Old Mom":

We didn't bait [putting out corn or grain to draw in a flock of ducks], didn't have to. We used live decoys...There was old Mom. We'd have a foot harness on her...and we'd just throw her overboard. So this day, we got ready to leave. We backed up [the boat] so Mom could get on. She didn't want to get on.

Said, "You better come on here, we're going on and leave you. What're you going to do?"

So we made the bend around the marsh, and the ducks in the berry crate were calling to her, and here she comes. Just a flying...She flew right up in the back of the boat.

"Wait a minute. Let her get on." [to Mom] "Come on. Get on here."

So she did and we put her in the crate then. That was the history of old Mom. But she could turn a duck...If wild ducks was a coming in -- call them right in. That's right. Turn her head like that, you knew, you could see her let it out...She was a good one.<sup>67</sup>

When retold the story of "Old Mom" and asked if he had on occasion kept live decoys, Carl Morris replied with his own recollection:

I did too for a while until they outlawed them. I had six of them; I had a mallard drake and five hens. And the old lady who lived next door to us, a friend of mine, gave me the eggs. They were wild mallard eggs -- they found them down the creek bank. She put them under her hen and hatched all six of them...

I was about maybe eighteen or nineteen or twenty, somewhere around that, and I fooled with those things every day and they were so tame you could just walk out and pick them up anywhere in the yard. You'd hold a bag open and they'd walk right in the bag. I tied the drake with a string and a stick down when we decoyed. The hens I'd let go.

Down at William's Beach one time, I had them out. And the drake picked the string loose and got up and flew and I held my breath. I said, "If they go up to somebody's decoys, that's the end of them."

But they flew up maybe three or four hundred yards and lit in a little drain. I went up there and pushed over the boat and they hopped in the boat...

My brother-in-law had the lighthouse at the mouth of Odessa Creek one time and left them overnight. We was going to go the next morning. He had two Chesapeake [Bay retriever] dogs, and they got in and killed every one of them. I was sick...

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<sup>67</sup> Interview with Ike Cleaver, Port Penn, January 1979, Bernard L. Herman and David G. Orr.

They'd see a flock, they'd quack and here they'd come. My buddy used to call them Judas ducks...<sup>68</sup>

The practice of keeping and deploying live decoys involved property types in addition to actual shooting stands. Pens were built to house the "tollers" and objects such as wooden crates were used to transport the birds. As with other aspects of wildfowling, however, the use of live decoys left little or no lasting imprint on the environment.

### **Property Types Related to Wild Fowl Gunning**

Several functional property types have been noted in connection with the history and practice of wildfowling. In terms of actual hunting, these include blinds, small watercraft, live decoy pens, and shooting stands. Associative property types, however, represent a more diverse and expansive category of historic resources. Included under associative property types are such historic resources as gunning hotels, guides' houses, picking and cleaning sheds, and packing and shipping sheds for market. Many of these property types historically occurred as building complexes as illustrated by James S. Flanagan's insurance policy for his Kitts Hammock hotel located near Little Creek. In 1860, Flanagan insured his "large three story Frame House at Kitts Hammock used as a Hotel at the Bay Shore 50 x 30 ft. with a 2 story adjoining 16 x 16 ft. Also a 1 1/2 story frame kitchen and store Room adjoining 12 x 50 feet, with platform around the whole of the main Building 9 x 30 & 9 x 50 connected by a Large Piazza 16 x 34 ft." Also associated with the site were a frame bake house, oyster house, stable, two sheds, and carriage house. The short life of several of these buildings is reflected in a subsequent policy taken out by new owners in 1866. The partnership of Heverin, Hobson, and Wilson of Little Creek bought coverage for the main hotel group plus a "frame one story building 18 x 20 used for a Bar and adjoined by ball Room 18 x 73" and a "frame building on the shore 18 x 18." The new owners recycled the old bake house as a "water house" and apparently pulled down the oyster house and likely incorporated its functions into the bar.

The largest single problem confronting the survey, documentation, and registration of historic resources associated with wildfowling is the ephemeral quality of the resources. The marsh hummock where a hunter knelt for an afternoon of sport one winter day in the 1870s was unlikely to reflect his presence after a month much less after the passage of decades. The most represented historic property types (resources over fifty years in age) associated with wildfowling are small watercraft and on-shore amenities for housing hunters and processing game.

**Gunning skiffs.** Double ended gunning skiffs were also built and used in the area although there are no known surviving examples. A skiff is "a small working boat with a centerboard and spritsail which is rowed and sometimes guided by the oarsman's shifting his weight."<sup>69</sup> Double-ended gunning

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<sup>68</sup> Interview with Carl Morris, Port Penn, January 1979, Bernard L. Herman and David G. Orr.

<sup>69</sup> *Maritime Folklife Resources: A Directory and Index*, glossary.

skiffs, employed primarily for duck hunting, were considerably smaller and characterized by a rounded hull, pointed stern and bow and clinker construction. Again, according to Carl Morris, "They had these double-end boats with brass runners on them and they had paddles this long [about two feet] and they had a piece of steel about a quarter inch around with a point on it. They'd get on the ice and give it a jab and he could give her a shove and go twenty feet...and when they came to the water again push her in."

**Rail skiffs.** Rail skiffs were somewhat different from gunning skiffs. Constructed with a flat bottom to allow use in the shallow waters of the marsh, the rail skiffs had squared-off bows and sterns, and were propelled by pushing off the bottom of the creek with a long pole.

### Agriculture in the Marsh

In addition to extracting food from the marsh, in the form of muskrat, turtle, wildfowl, and fish, Delawareans also used portions of the extensive tidal marshes for agricultural purposes (Figure 49). Agricultural activities ranged from banking and ditching to drain the marsh so that traditional crops could be grown, to the controlled harvest of the salt hay that grew naturally in the marsh. Farmers engaged in these efforts from the seventeenth century through the 1930s, but they left few physical resources behind on the landscape.<sup>70</sup>

From their earliest arrival in the late seventeenth century, Delawareans maintained a practice of reclaiming, or "improving," otherwise useless marshland for agricultural use. The Dutch and Swedish who settled in New Castle County brought with them to the new world a culture with much experience at keeping the water away from low-lying agricultural fields. Although a great deal of rich agricultural land existed near the early settlements colonists began ditching and banking their lands along the river very soon. A dike was built at New Castle and regulated by law in 1712; other banks to the north and south of New Castle followed in the next twenty years.<sup>71</sup> Once the effectiveness of this method was proven, other colonists adopted the practice in marshes all along the Delaware River and Bay.

Reclamation work in the seventeenth and eighteenth centuries consisted primarily of private individual attempts to drain one's own land, usually for the purpose of creating usable pasture for cattle. Many farmers also believed that draining the marshland would reduce the problem of mosquitos by removing the stagnant water that created their habitat. Finally, ditches sometimes served as division lines

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<sup>70</sup> Two of the best sources for this subject, providing much more detail than is given in this report, are Kim Sebold's work for the National Park Service, *From Marsh to Farm: The Landscape Transformation of Coastal New Jersey*, and David Grettler's Ph.D. dissertation, "The Landscape of Reform: Society, Environment, and Agricultural Reform in Central Delaware, 1790-1840," particularly chapter 5 on ditches, dams, and reform. Sebold deals primarily with New Jersey in the mid to late nineteenth century but much of her research is also applicable to the Delaware side of the river. Grettler's work focuses directly on central Delaware and addresses the conflict in the late eighteenth and early nineteenth centuries between advocates and opponents of marsh reclamation.

<sup>71</sup> *History of Delaware 1609-1888*, p. 439.

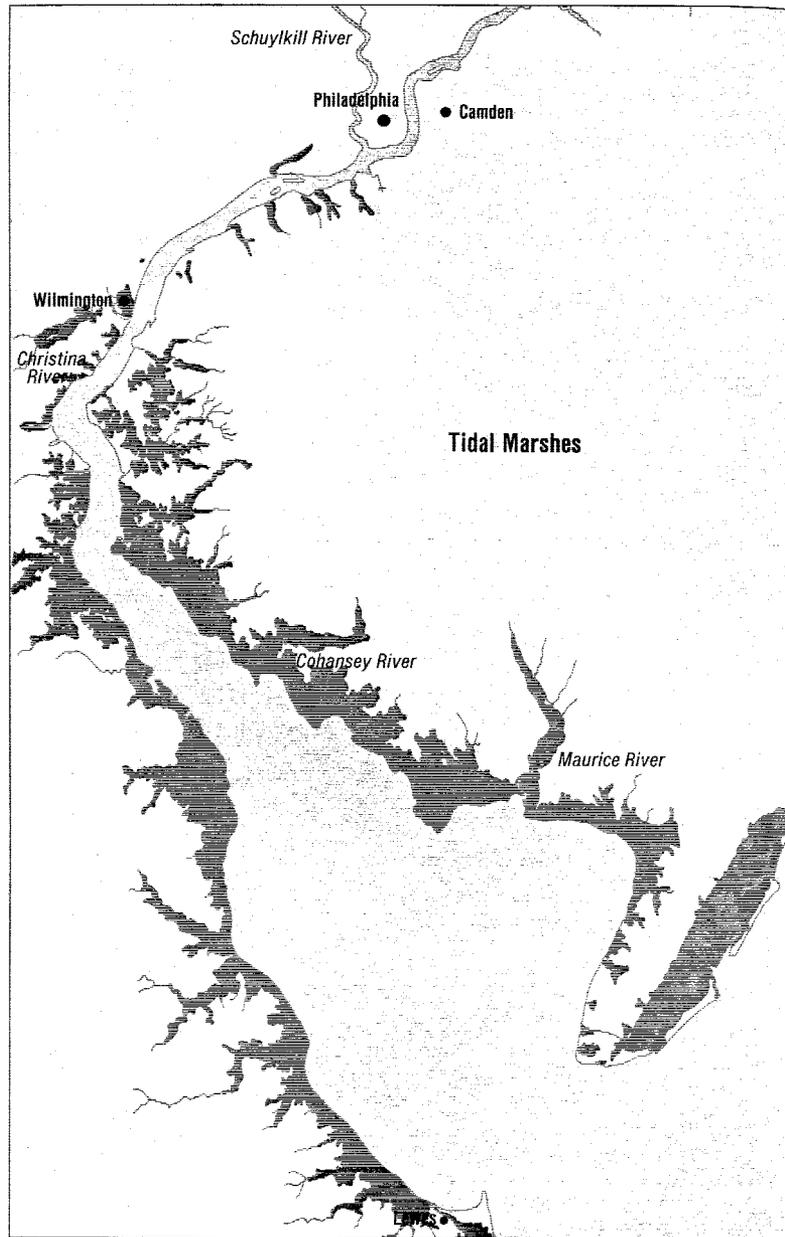


Figure 49: Map of the Tidal Marshes of the Delaware Estuary. Note the extent of the spread of the marshes both along the coast and inland along creeks and rivers. Source: *The Delaware Estuary*, p. 96.

between properties. Occasionally two neighbors agreed to dig and maintain the necessary ditches cooperatively. John Dickinson and his neighbor along the St. Jones Creek, Francis Barber, signed an agreement in 1803 to dig a ditch along the boundary between their properties from the Kitts Hummock Road to the creek. Each of them was responsible for maintaining one half of the ditch--basically keeping it clear of obstructions so that the water could continue to drain.<sup>72</sup>

By the late eighteenth and early nineteenth century, marsh reclamation acquired a more formal nature. Individuals or groups applied to the General Assembly for permission to ditch and bank certain areas to create new agricultural land from the fertile soil in the marshes. The legislature granted permission in almost every case, often allowing the marsh companies to levy taxes for the improvement on any landholder whose marsh land benefitted from the work. This attitude on the part of the legislature created a considerable conflict between the wealthy landowners who saw the reclamation process as one that would benefit everyone and would not damage their pocketbooks too severely and the poorer landowners and tenants who could not afford the marsh taxes without great hardship. In the long run, the legislature sided with the marsh companies and the taxes were levied. After the initial controversy died down, people became resigned to the taxes and eventually recognized that they did receive some benefit in the form of increased property values and larger amounts of arable land.

The process of reclaiming the marsh was fairly straight-forward, but very labor-intensive. First, a system of embankments along the water's edge prevented the tide from flooding the area. Second, a series of deep ditches drained the existing water from the marsh through sluice-gates that allowed water to flow out of the marsh but not back in. In theory this sounded very simple, but in reality the implication of digging, and then maintaining, miles of ditch and bank often proved prohibitively expensive and time-consuming. Ditch sizes varied greatly, ranging from John Dickinson's specifications of approximately 5 or 6 feet wide at the top, 3 feet deep, and anywhere from 1 to 3 feet wide at the bottom, with a footing of 12 to 18 inches at the top of the ditch, to the main canals for reclamation which stretched 20 feet across the top and 5 feet in depth. "Prong" ditches fell in between these two extremes, measuring 9 to 12 feet wide and 3 feet deep.<sup>73</sup> In order to keep tidal waters out, banks had to be at least 3 feet higher than the average high tide. For most of central Delaware, 6 to 8 feet in height sufficed; in some areas, like the St. Jones Neck, a bank of 12 feet was needed.<sup>74</sup> The earth to create the banks came from areas other than the marsh, by the cart load.

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<sup>72</sup> John Dickinson Papers, Delaware State Museums, File 30 # 6.

<sup>73</sup> John Dickinson Papers, Delaware State Museums, File 30 #6, 70 #29, 53 #6; Grettler, "The Landscape of Reform," p. 167.

<sup>74</sup> John Dickinson Papers, Delaware State Museums, File 30 #10; Grettler, "The Landscape of Reform," p. 166.

The actual ditch-digging was performed by laborers and slaves, later by self-proclaimed "ditchers." Stephen Dougherty, for example, rented a house from John Dickinson for one year for the sum of \$1.00 and the promise to dig Dickinson's ditches at a rate of half a bushel of Indian corn per perch. Dickinson recorded numerous payments to several of his former slaves for ditch-digging at various locations on the St. Jones Neck and for two years hired specific individuals to spend all of their time digging ditches just on his St. Jones property. In 1781 he hired Joseph Wheeler to build a bank at Hay's Point; the bank was to be 12 feet from side to side and 12 feet high, but also "so high as to turn all tides effectually so that the marsh and cripple above the bank may be perfectly thereby dried improved and turned completely into good meadow and cultivable land."<sup>75</sup>

Once the marsh had been drained, the land could be used for cultivation of traditional crops such as corn and wheat. Other traditional crops popular in upland areas were sometimes planted, but there was a risk involved. Flooding by the salty or brackish water could kill traditional crops.<sup>76</sup> Many farmers felt the risk worth taking due to the high fertility of the drained marsh and persisted in their efforts to keep the land.

### **Harvesting Salt Hay**

In the early nineteenth century the harvest of salt hay became a significant part of the marsh economy and remained so through the early twentieth century. By the 1830s farmers regularly harvested the salt hay that grew naturally in the marshes for use as animal fodder and to send to market for packing material, rope, and coffin lining.

There were three different grasses that formed salt hay: black grass (*Juncus gerardi*), rosemary (*Distichlis spicata*), and yellow salt (*Spartina patens*). Black grass grew in the higher areas of the marsh and was harvested before July. Rosemary was found at lower elevations and yellow salt in even lower areas.<sup>77</sup> Although all of the grasses were important, yellow salt was preferable to the others because of its finer texture. These grasses grew naturally in the marsh and needed little care other than the harvesting process. Two methods were used to improve the crop and to control the presence of the unwanted phragmites (introduced in the early twentieth century): burning and flooding. Burning occurred in late March or early April to produce a "clearer and brighter grass."<sup>78</sup> In 1827 an act was passed against the

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<sup>75</sup> John Dickinson Papers, Delaware State Museums, File 30 #10, 5 December 1781; File 38 #14 A, 2 July 1799.

<sup>76</sup> *From Marsh to Farm*, p. 56.

<sup>77</sup> *From Marsh to Farm*, p. 41.

<sup>78</sup> *From Marsh to Farm*, p. 43.

“unseasonable firing of marshes”<sup>79</sup> which limited such burning to March 10 through May 1. Controlled flooding during the spring tides brought salt and other nutrients to the growing hay.

The salt hay harvest began in late June or early July and continued into the winter months with the “best grades cut prior to the first frost.”<sup>80</sup> Because of the unstable nature of the marshy soil, hay that was cut by hand was sometimes stacked in the marsh until the land froze and horses and carts or sleds could transport the hay to market. When the marsh was solid enough to support horses, they were rigged to mowing machines which cut the hay. After cutting, the hay was left to dry for several days. It was then raked into long rows called windrows where it continued to dry. Raked a final time into bunches, the salt hay was loaded onto wagons for transport to market.

Boats used to transport the hay include hay scows, or gundalows. “Most were made of 2” wide white cedar planks nailed together with 4-1/2” square-cut nails; the bottoms were made of Jersey pitch pine. Others were described as being 33’ long, 12’ wide, and 3’ high from deck to bottom.”<sup>81</sup> The boats were propelled by two men using 15’ cedar poles to push off the river-bottom.

Prior to 1816, owners of low ground gained permission to reclaim their land through private acts or petitions to the General Assembly. The Delaware General Assembly passed many such acts to legalize the reclamation of marsh lands for salt hay. The acts allowed the embanking and draining of marsh provided for keeping the works in good repair.<sup>82</sup> They also specified the location of the marsh, the approximate amount of acreage, and any tributaries involved, as well as the owner or owners of the land. The following is a typical private act:

An act for stopping St. George's creek, and for embanking and draining a quantity of marsh and cripple on both sides of the said creek, being deemed about three thousand acres, situate in Red-lion and St. George's hundred, and county of New-Castle, and for keeping the dikes and drains, belonging to the same, in good order and repair.<sup>83</sup>

In some cases, these acts provided for the establishment of marsh companies that were entitled to harvest the hay for commercial profit. The Simon's Creek Marsh Company received permission to control the land at the head of Heron Gut in Little Creek Hundred, Kent County. They had been given the power to ditch, drain, and embank the area in an 1811 act, and these powers were extended in 1823 when they were

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<sup>79</sup> Laws of Delaware , 1827. Chapter 11, page 28.

<sup>80</sup> *From Marsh to Farm*, p. 43.

<sup>81</sup> *From Marsh to Farm*, p. 48.

<sup>82</sup> Laws of Delaware, 1823. Chapter 160, p. 259.

<sup>83</sup> Laws of Delaware, 1811, p. 394. A private act passed at Dover, 24 January 1811.

authorized and empowered to stop the water course of the said Heron gut, at the point or place upon the said gut where the bank of the aforesaid Simon's creek marsh company now terminates, and to place therein such sluice or sluices as may be necessary, as well for letting off the back waters as for keeping the tide waters from flowing into the said company's marsh: And to make a good and sufficient bank from the said place of stopping the said gut.<sup>84</sup>

Starting in 1816, legislation assisted Delawareans in their land reclamation efforts. "An act to authorize and empower the owner or possessor of any swamp or low ground to ditch and drain the same, and for rendering more easy and convenient the mode of obtaining permission therefor," detailed the legal procedures for ditching and draining land. The Court of Common Pleas and three freeholders regulated the process, surveyed the land, assessed damages, and taxed the benefitting owners.<sup>85</sup> Legislation allowed the marsh companies to "take with them such workmen, horses, carts, barrows and tools as they shall deem proper, and then and there to lay such sluice as may be deemed necessary for draining said meadows, dig and carry mud or earth from the most convenient places for keeping the banks, dams, sluices, &c. in good and sufficient repair."<sup>86</sup> These efforts resulted in the formalization of landholdings along the river. Surveys plotting the marshlands of individuals and marsh companies, such as the one in Figure 50, clarified rights to the marsh and its harvest.

At the beginning of the time frame for this context (1830s) Delaware was part of a strong agricultural economy in the eastern United States. Farmers needed to make the most intensive use of their land in order to generate sufficient crops for market. The harvest of salt hay and the reclamation of the marshlands for traditional crops represented a part of the scientific agricultural movement to make the most of the existing land. The intensive use of the marsh for agricultural purposes began to decline in the late nineteenth century, following the hurricane of the 1870s and the shift of the agricultural market to the midwest. The collapse of the agricultural economy nationally caused many coastal residents to shift their market focus to the exotic foods requested by hotels. In the 1930s another major hurricane swept along the estuary, flooding the banks and ditches and restoring the marsh to its natural appearance. Following this hurricane, the few remaining salt hay farmers gave up the battle with the tides and allowed the land to remain as natural marsh. Farmers no longer saw the incentive for the costly, back-breaking efforts necessary to maintain the ditches and banks in adequate repair. Over time, the marsh and the tides absorbed most of these resources; few traces of them remain on the landscape today. The only methods left to identify their locations are documentary records describing the intentions of individuals and marsh

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<sup>84</sup> Laws of Delaware, 1823. Chapter 178, pp. 289-295.

<sup>85</sup> Laws of Delaware, 1816, p. 132-133.

<sup>86</sup> Laws of Delaware, 1827, p. 114.

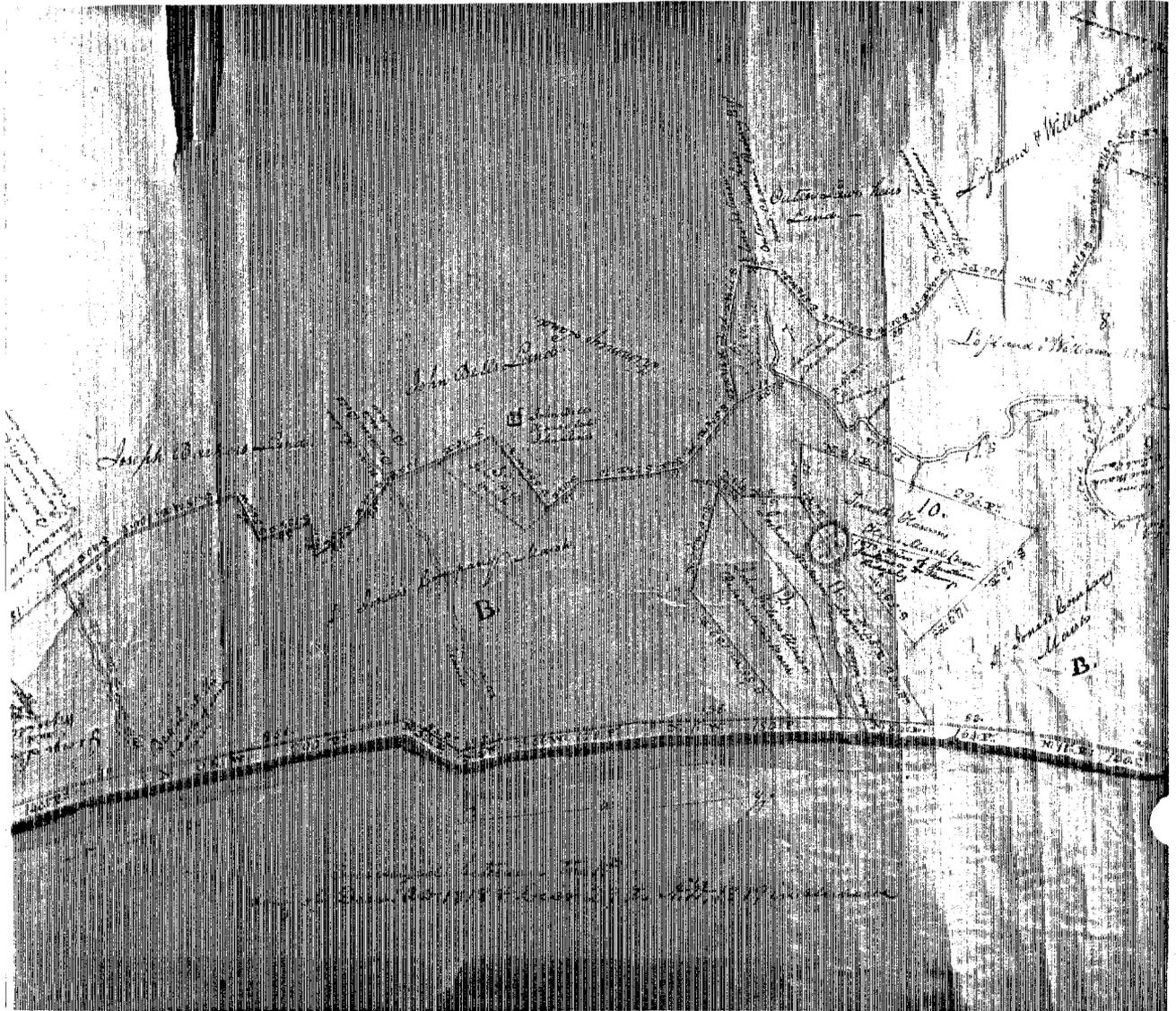


Figure 50: Map of the marsh along the Delaware Bay, from the Little Creek to the St. Jones River, showing the parcels of marsh owned by both individuals and the St. Jones Marsh Company, 1818-1819. Source: Hopkins Plots, 100a; Delaware State Archives, Dover, Delaware.

companies, and in some cases, the aerial photographs taken in the 1930s that show many landscape features that are no longer visible.

#### **Property Types for Marsh Agriculture**

Most of the property types related to marsh agriculture activities are highly ephemeral and possess very low survival rates. Many can be identified only through documentary sources.

**Ditches.** As described earlier, ditches provided the means of draining the water from the marshes. They ranged in size, depending upon location and specific purpose, from a top width of six feet to twenty feet; height generally ranged from three to five feet; and the width at the bottom could be anywhere from 1 foot to five feet. Few ditches are visible today since most reclaimed marshland has been reabsorbed by the marsh and tides.

**Banks or dikes.** Banks or dikes represented the second part of the system for reclaiming marsh land. Banks kept the water out of the marsh once it had been drained. For this reason they had to be at least three feet taller than the greatest high tide and sufficiently wide to prevent erosion from destroying the bank in too short a time. Like the ditches most of the resources have vanished from the landscape and are visible only in the documentary record.

**Sluice gates.** Sluice gates were wooden gates built into the ditches to allow water from the marsh to drain out but also to prevent tidal river water from coming in.

**Hay scows and skiffs.** Hay scows and skiffs were shallow-bottomed boats used during the harvest of salt hay, particularly in areas where the marsh was too dangerous to bring in horses.

### III. River Towns

One of the largest property types related to the Marshland Historic Context, and the most visible on the landscape, is the river town. There are relatively few river towns along the Delaware River due to specific geographic and hydrologic factors such as the lack of deep water harbors and firm ground for building. Communities like Port Penn, Little Creek, Leipsic, Slaughter Beach, Bowers Beach, Pickering Beach, and Delaware City were centered around life on the water. The marine focus was supported by specific buildings within the towns, such as ship chandleries, warehouses, and stores. Periods of prosperity can be gauged by increases in building construction related to marsh and maritime activities. This chapter discusses the attributes of river towns as a property type related to the Marshland Historic Context.

Geological factors were one of the primary determinants behind successful river towns. Communities could be established only in areas of fast, or solid, ground. The numerous marshes located along the banks of the Delaware River and its estuaries limited the potential locations for towns with convenient access to the river or a tributary. Marshes often bordered or surrounded the towns, limiting their growth or dictating the direction of growth. In the case of Port Penn, the original town plan anticipated two streets that were located in a marsh at that time (Figure 51). Reclamation of marsh for the construction of houses or roads was believed to be a viable opportunity for enlarging the town. In the case of Port Penn, such grand plans were never achieved.

Navigable waters and good harbors were also a requirement for a river town. David Stewart, the founder of Port Penn, saw promise in the town's location as an excellent harbor. He envisioned the town as a rival to Philadelphia and placed advertisements in the *Pennsylvania Gazette* praising the natural merits of the location. The advertisement stated that the sheltered, deep water harbor was perfect for trading with the West India market.<sup>87</sup> The shallow waters of the Delaware River made such a combination difficult to find. Vessels also sought protection from the winds and tides of storms within the harbors of river towns. Fishing and oystering vessels as well as trading ships needed access to wharves and docks to conduct business. Leipsic's economic boom began *circa* 1814 in response to the need for a shipping point to handle Delaware's fur trade. Located at the first point of fast land on the Leipsic River, the town was soon acting as a major shipping point not only for fur but for grain, oysters, and other local produce. The town's harbor was deep enough to hold the oyster schooners as well as ships that were transporting goods all over the world.

Towns whose economic well-being depended upon the river were oriented to the water. To accommodate ships for business and pleasure, all river towns had public wharves. The wharves were

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<sup>87</sup> *Pennsylvania Gazette*, 1764.

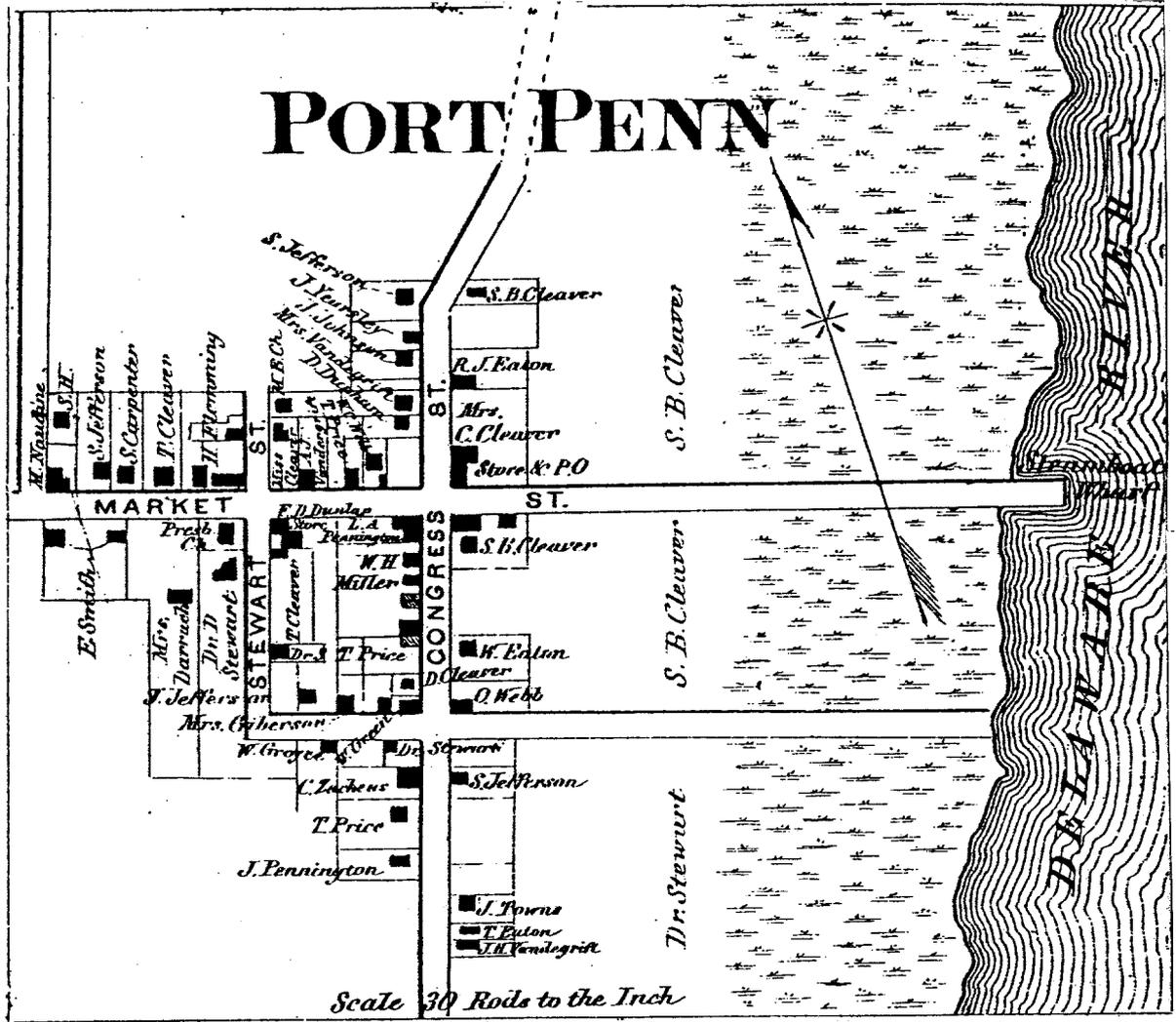


Figure 51: Port Penn town plan, Beer's Atlas of Delaware, 1868, p. 33. Two streets, Beaumaris and Delaware, were originally planned east of Congress Street, near the river. As can be seen on the 1868 map, neither of these streets was ever constructed as David Stewart had originally planned. Stewart's original plan can be found in the Stewart Papers, Delaware State Archives, Dover, Delaware.

often described as “hives of activity.” Residents of Leipsic recalled times when cargo schooners would be anchored in the harbor waiting to begin loading the wagons of farm produce and furs that were lined up on Lombard and Front streets (Figure 52). The docks in Port Penn and Little Creek were also the center of life as ships loaded agricultural and maritime goods for markets in Wilmington, Philadelphia, and New York. Wharves were built along the water’s edge to allow direct access to boats for loading and unloading cargo (Figure 53). Constructed of wooden planks and supported by pilings driven into the river bottom, there were often sections roofed over to shelter business activity. Stores and warehouses were also located along the waterfront to accommodate the shipping business. Fish dealers worked directly on the wharves, transacting deals with the fishermen as they unloaded the day’s catch (Figure 54).

### River Town Inhabitants

Many river town residents relied upon the water for their livelihood. Boat carpenters, fishermen, oystermen, and salt haymen congregated in the communities where the river was a way of life. An examination of the manuscript population census for Leipsic and Port Penn from 1870 to 1920 provided a case study for common occupations found in towns primarily associated with maritime activity.

The population of Leipsic declined steadily from 1870, when it comprised 577 individuals, to 1920 when the number dropped to 244--less than half the population of fifty years before. This trend was accompanied by a steady increase in the percent of the population that was of working age. In other words, the population was getting older as well as getting steadily smaller. The actual number of people in the working population was fairly stable between 1880 and 1920. Between 1870 and 1880, 25 percent of the working age population disappeared; between 1880 and 1920, only 20 percent vanished (Table 1).

At the same time that the population was growing smaller and older, fewer residents were specifying an occupation. While almost all of the working age population in Leipsic was employed in 1870, by 1900 less than half were claiming a particular occupation (Table 2). This may be a result of age in that people who retired may not have listed an occupation; it may also be tied to the decline of the maritime industries due to over-fishing.

The manuscript census recorded occupations for men over age 16 and women over age 15. These occupations were counted and grouped for each census year according to the historic themes found in the Delaware Plan. In the town of Leipsic, occupations represented the following historic themes: agriculture; trapping & hunting; fishing & oystering; manufacturing; retailing & wholesaling; finance; professional services; transportation & communication; settlement patterns & demographic change; government; religion; and education.<sup>88</sup> Figure 55 shows the changes in the concentrations of

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<sup>88</sup> Appendix B provides a list of occupations identified by the Manuscript Census for Leipsic, Little Creek, and Port Penn, as categorized by the *Delaware Plan*.



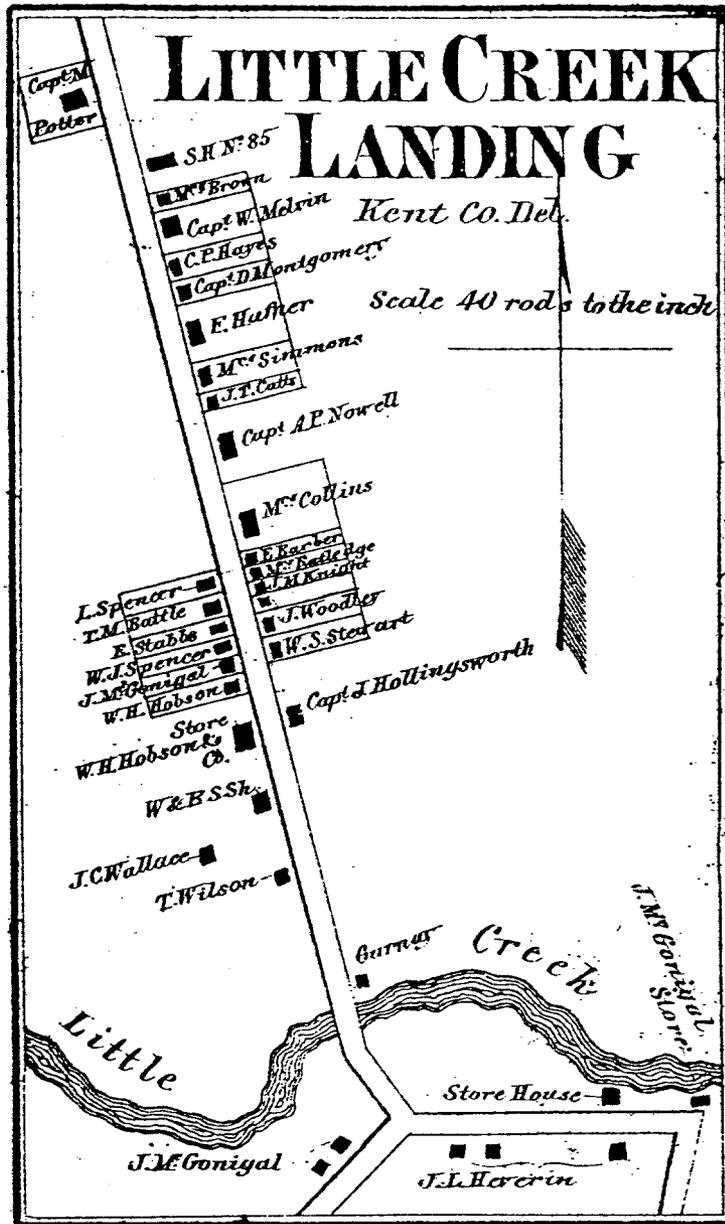


Figure 53: Town plan of Little Creek, *Atlas of the State of Delaware*, 1868, p. 45.

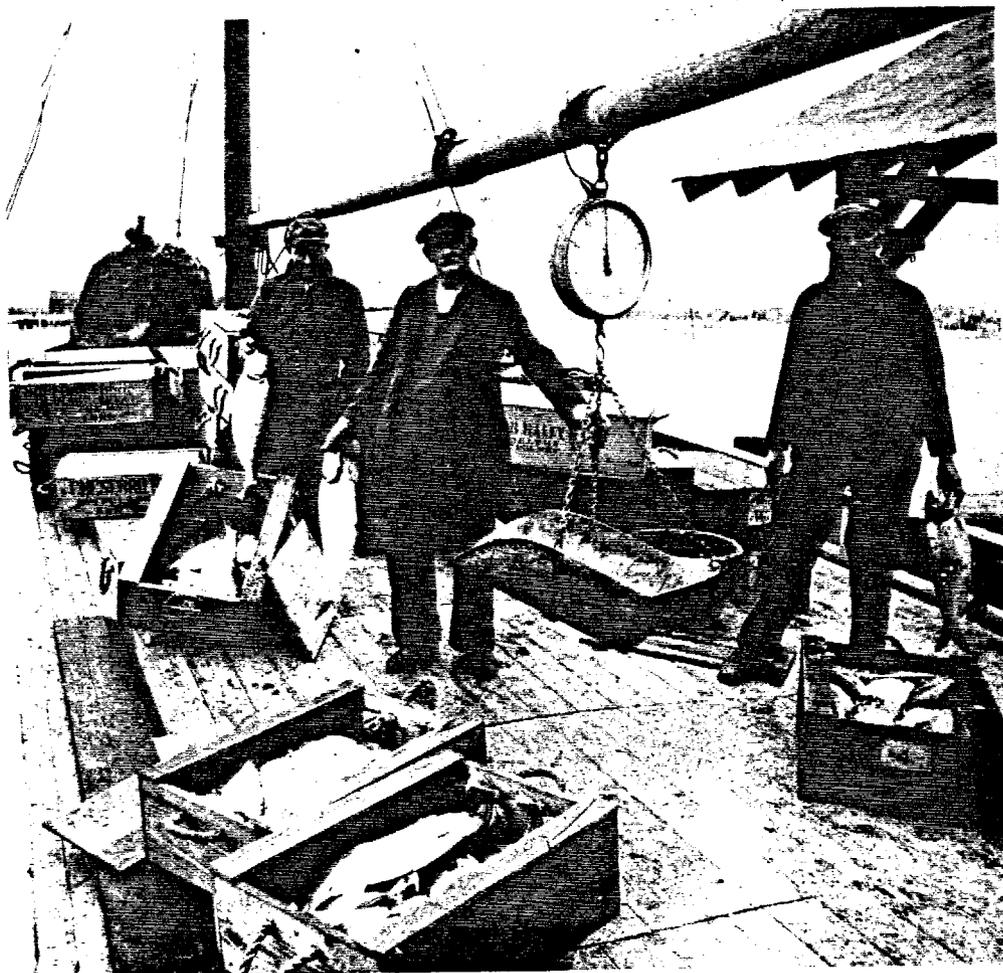


Figure 54: Fishermen and fish dealers unloading, weighing, and boxing shad for market, c. 1923. Source: *National Geographic Magazine*, 1923, p. 603.

**Table 1**  
**Census Information for Leipsic, Delaware, 1870-1920**

	<u>1870*</u>	<u>1880</u>	<u>1900</u>	<u>1910</u>	<u>1920</u>
No. of houses	94	85	86	74	83
No. of households	94	88	90	73	83
Population	577	407	305	271	244
Lodgers	52	36	20	34	19
Males over 16	49	116	114	104	104
Females over 16	156	118	112	96	86
Total over 16	305	234	226	200	190

\*Reconstructed

**Table 2**  
**Employment Percentages for Leipsic, Delaware, 1870-1920**

Year	<u>Total Population</u>	<u>Number of Individuals Employed</u>	<u>Percent of Population Employed</u>
1870*	577	290	50%
1880	407	190	46%
1900	305	101	33%
1910	271	85	31%
1920	244	88	36%

\*Reconstructed

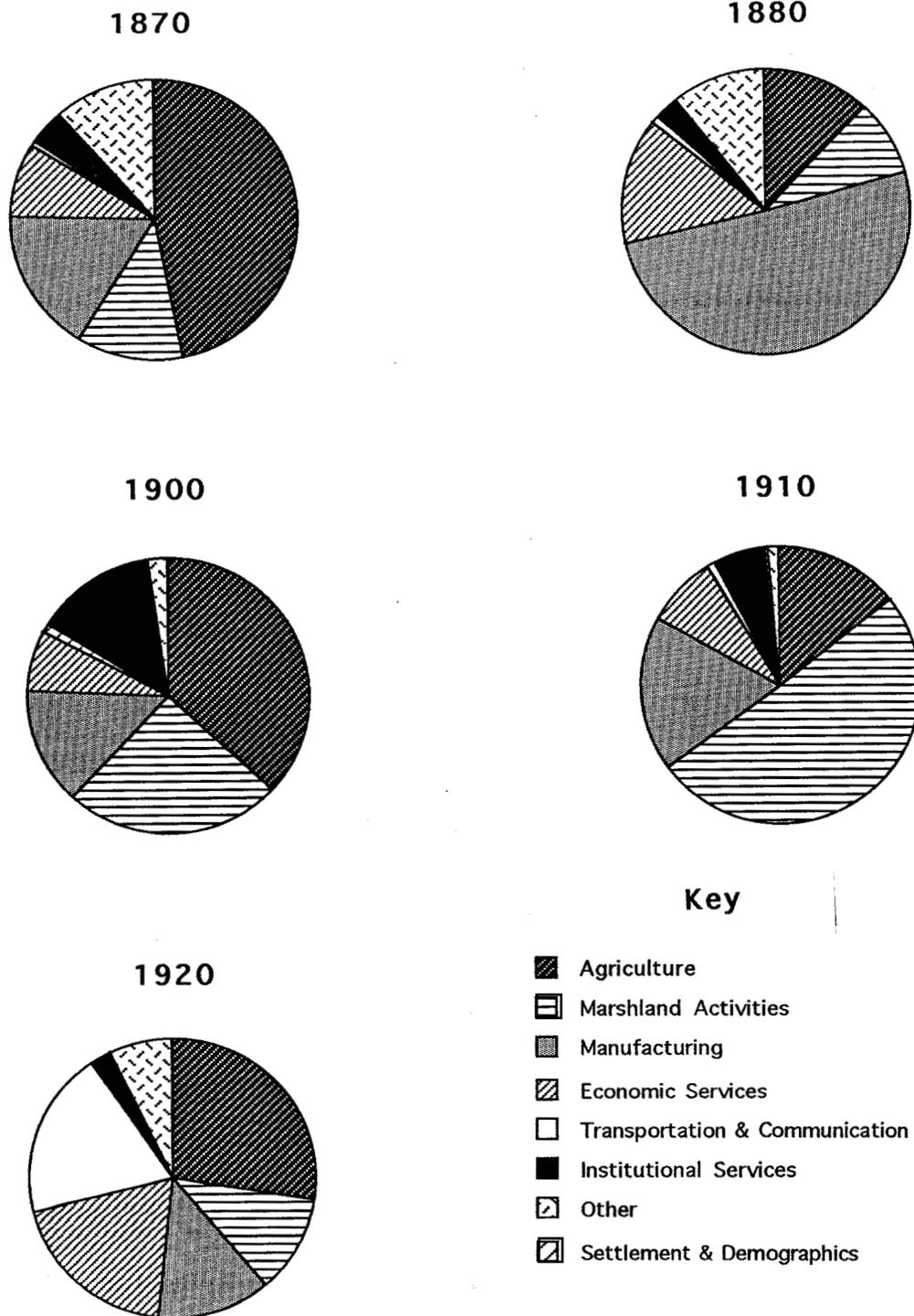


Figure 55: Distribution of Population Among Occupations, Leipsic, 1870-1920. Compiled from Manuscript Census Records, Leipsic, Little Creek Hundred, Kent County, Delaware. Note: "Marshland Activities" includes trapping, hunting, fishing, and oystering. "Economic Services" includes retailing and wholesaling, finance, and professional services. "Institutional Services" includes government, religion, and education.

occupations for the years 1870, 1880, 1900, 1910 and 1920.

The occupation that attracted the largest portion of the working population varied from one census to the next: in 1870, agriculture was most prominent (47 percent); in 1880 manufacturing took the lead (51 percent); agriculture reemerged in 1900 (37 percent); fishing and oystering took over in 1910 (51 percent); and agriculture was prominent once again in 1920 (28 percent). Agriculture provided a steady form of economic support for Leipsic. It employed the highest percentage of the work force during the years 1870, 1900, and 1920. In addition to traditional crops, agriculture in areas along the Delaware River included the harvest of salt marsh hay, which produced a harvest of approximately one hundred tons annually in the Leipsic area. Most of the hay was shipped directly to Wilmington and Philadelphia, where it was used in the production of hollow bodied iron castings, in rope-making, as cattle feed or as packing material.<sup>89</sup> Manufacturing was the prominent employer listed for the 1880 Leipsic census. The specific occupations suggest that these individuals were employed in activities that supported the town's economic base, such as carpentry, ship building, blacksmithing, and shoemaking.

The National Register nomination for Leipsic suggests that the town derived its economic support primarily from maritime-related activities. Yet the above figures clearly demonstrate that agriculture and manufacturing were also important activities for a large segment of the population. In years when it was not the primary occupation, fishing and oystering employed between 8 and 23 percent of the work force. Trapping and hunting was identified as an occupation in 1900 and 1920, but for only 1 or 2 percent of the work force. It has been suggested by Bob Beck, biologist and Port Penn historian, that the reason for the small number of people who listed trapping and hunting as occupations may have been the time of year when the census was taken. Individuals were often involved in multiple maritime activities depending on the natural resources available during the season: fishing in the summer, hunting in the fall, and trapping in the winter. Some individuals simply listed themselves as laborers, while others chose to list only the activity they were currently involved in. Other individuals were involved in farming as a primary occupation, but trapped or fished as a second source of income. Since individuals did not uniformly label their specific type of work, determination of the actual occupation is very difficult.

### **Architectural Resources in River Towns**

Based on the occupational analysis, the extant resources discussed in the nomination, and the documentary research that has been undertaken for the development of this historic context, it is possible to identify a number of architectural resources that could be expected to be found in any river town. Most of these resources will be discussed in far greater detail later in this report so they will be mentioned here only as they relate to the appearance of the river town.

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<sup>89</sup> "Historic Resources of Leipsic and Little Creek."

To facilitate their lifestyle, watermen built houses close to the river and its resources. The vernacular architecture of river towns is generally simple. Houses were modest in size, material, and finish; tax assessment records indicate that the majority of occupants rented from an absentee landlord who often owned several buildings in the town. Existing nominations for Leipsic and Little Creek provide good documentation of dwellings inhabited by a variety of individuals, including merchants, watermen, ship pilots and captains, ship builders, and store owners.

The occupations represented in the manuscript census, however, suggest the existence of a number of other property types that supported activities related to the marsh and river in Leipsic but which have since disappeared from the landscape. Significant among the missing are a hotel, for which keepers were employed from 1870 to 1900; a school that had teachers from 1870 to 1920; the shops of a blacksmith and a wheelwright; a grist mill that employed an engineer and a miller in 1890; a cannery, represented by three can makers in 1900 and a tinsmith in 1910; a creamery that employed three laborers in 1900, an engineer and a book keeper in 1910, and a manager in 1920; a steamboat and its docks which employed an engineer in 1910 and two captains, a pilot, a marine engineer, and a fireman in 1920; and an ice cream manufacturer in 1920. The map of Leipsic in D. G. Beers' *Atlas of the State of Delaware for 1868* identifies other resources in addition to those suggested by the census: a warehouse, a carpenter shop, and combination drug store/post office on Front Street; a gunnery on Lombard Street; and a tailor's shop, a shoe shop, and a harness shop on Main Street.

The National Register nomination for Leipsic also alludes to property types that are not directly described. For example, the discussion of the H. T. Hoffecker House on Front Street reveals that it was owned by Wilson Cannon from 1841 to 1863. Cannon was a shipbuilder between 1836 and 1854, and the assumption is that buildings existed at that time to support his business. The nomination provides no additional evidence to support this contention. Documentation on the Maclary House indicates that it once belonged to a progger, yet no mention is made of the outbuildings that potentially existed to support his fishing, turtling, and hunting activities. The Fennimore Store, located at the corner of Front and Main Streets is the only commercial structure addressed in the nomination. Originally constructed as a dry goods store, it also served as a muskrat skinning shed for an undetermined period of time, but there is little discussion of the ways in which it reflects that enterprise. John Fennimore Sr. operated a steamboat between Leipsic and Philadelphia "in order to promote his own business and the general trade of the community,"<sup>90</sup> but there is no evidence of how any extant resources, such as docks or warehouses, were related to that business.

Three now-destroyed outbuildings were known to exist with the Alexander Laws House: a smokehouse was located directly behind the house, and a horse barn and loft were located on the opposite side of Front Street. In Little Creek, the description of the Elizabeth Stubbs House identifies "a

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<sup>90</sup> Scharf, p. 1121.

frame privy and a small frame shed of ambiguous vintage" as located on the property. Documentation of the Jonathan Woodley House mentions an old weathered frame shed on the south property line. These dwelling complexes were set up for functions beyond that of agriculture or town dwelling, yet the potential marshland and river-related functions of the outbuildings are not addressed by the nomination.

As indicated, many types of architectural resources existed in river towns to support the various types of marsh, river, and merchant activities. In some cases, buildings could pass through several different uses during their existence. It is apparent, however, that many of these resources fail to survive, or fail to survive in a form that is readily recognized as being related to marsh and river activities. One of the purposes of this historic context is to provide information that can be used to help identify these structures as they are located.

### **The River Town As A Property Type**

The river town as a property type is actually a collection of individual property types gathered together in a particular type of location--that is, a river town will be located in a situation that meets certain requirements and it will contain specific types of architectural and landscape-related resources.

The river town can be classified as both a physical property type and an associative property type. As a physical property type, the town is defined by its proximity to the Delaware River and marshes; it housed residents who were historically involved in working the marsh; and it contains other property types with functions specifically related to the river and marshes, i.e. skinning sheds and boat yards. As an associative property type, the river town contains elements that relate to other aspects of marshland life and work; for example, the river town would be associated with muskrat trapping as a place in which pelts were bought and sold.

An examination of the 1868 maps of Leipsic, Little Creek, and Port Penn reveal several attributes shared by the **river towns** property type. Each of the three settlements shared the feature of an orientation to the Delaware River and Bay or their tributaries. At the same time each of the three communities achieved its 1868 appearance through very different historical processes. The location of commercial, residential, public, transportation, and religious functions and structures clearly indicate a larger sense of town planning and organization.

Port Penn, founded in the 1760s by David Stewart, was based on the idea of the Philadelphia grid plan. Both the Philadelphia and Port Penn grid plans (as designed, not built) consisted of a regular geometric network of streets intersecting each other at right angles. Penn and Stewart envisioned cities where the total pattern of streets provided equal access to trade. In essence, the design for Port Penn was based on the eighteenth-century trans-Atlantic culture and economy of mercantilism. Stewart's Port Penn never achieved the stature of Philadelphia, but his urban vision still survives. The two principal

streets in the village are Congress and Market. Congress Street parallels the Delaware River and in 1868 composed Port Penn's central business district; Market Street ran westward from Congress at right angles and provided the primary access to Port Penn's rural "backcountry" of St. Georges Hundred. Running to the east was the extension of Market Street which terminated at the river's edge with the steamboat wharf. An earthen dike constructed in the early nineteenth century enabled the town to reclaim much of the land between Congress Street and the river. Unsuitable for building lots, this area was relegated to meadow and net drying yards. In 1868 the center of town was defined by Catherine Cleaver's house and store situated at the intersection of Congress and Market streets. The centrality of Cleaver's property, which also served as post office, is reflected in the mid through late nineteenth-century manuscript tax assessments for the community which invariably begin at this address. The prominence of the Cleaver house in 1868 superseded the earlier importance of the Stewart family house on Stewart Street just south of Market. As Stewart envisioned his infant city, his house and the adjoining market square would define the urban center. By 1868, the site had been long given over to the Presbyterian church. Commercial buildings, such as the Dunlap House and Store, also stood in this area of the village. One block to the west, Port Penn simply petered out. In the late 1800s the western edge of the two block town was home to the school, a few residences, and later the Zacheus family cannery.

Port Penn in 1868 represented a settlement that had failed to meet the expectations of its colonial founders. Although elements of the grid plan still survive only one complete square or block was ever completed. Individual historic resources associated with the earliest history of Port Penn are almost entirely dwellings or dwellings with some sort of commercial space in the ground floor front rooms. In the details of their construction, plans, and finishes, these buildings reflect late eighteenth-century regional architectural trends. The M. Naudine House at the corner of Market Street and Route 9, for example, was built as a roughly framed, two-story gable-fronted structure with ground floor store and counting room and upstairs chambers. The Dunlap House and Store on the corner of Market and Stewart streets similarly combines functions. Other houses ranging in quality from the five-bay, glazed-header flemish bond Stewart House to the Zacheus family's two-story, two-room log house, represent the sort of housing stock closely identified with the rural landscapes of central Delaware. Port Penn represents an expansive eighteenth-century town plan as a dramatically compressed nineteenth-century reality.

Besides the town plan, Port Penn also exhibited the qualities of a nucleated village settlement facing its waterfront. From the wharves at river side toward the back country, Port Penn's functional character became increasingly less commercial and more residential. The two churches in the town were located inland from the commercial core of Congress Street but remained prominent through their placement on or just off of Market Street. At the village edge stood the school and earliest industrial structures associated with the nineteenth-century village.

Leipsic represents a grid plan river town that achieved its character through a very different

process. The town of Leipsic grew out of the dramatic improvement of a colonial river landing on Little Duck Creek. By 1868, the older landing had been regularized through the imposition of a grid plan. The development of the town plan as an afterthought is revealed in the irregular city blocks. As with Port Penn, Leipsic has a definite "center." The intersection of Front and Main streets was dominated by the commercial premises of Denny & Snow, "Dealers in Dry Goods, Groceries, Boots, Shoes, Hats, Caps, Grain and Fertilizers"<sup>91</sup> which stood directly across from the town landing. In the early twentieth century the site of their store would become the location of the ship chandlers who provisioned the Delaware oyster fleet. Around the principal stores stood a mix of residences, the town post office, a hotel, and small shops for tailors, carpenters, and shoemakers. The widening band of the town plan contained in its next ring of functions the Methodist Protestant church, a few retail shops, and a higher incidence of residences. At Leipsic's southern and western edges stood a scattering of lesser houses, the Methodist Episcopal church, and the town school. Insurance surveys for the latter half of the nineteenth century also reveal the edge of town to be the site of the town cannery and other early industrial activities. The S. H. Levins' Sons Cannery of the late 1800s (which became the Richardson and Robbins Canning Factory in 1929) stood just across the Little Duck Creek River from the town proper. The expanded 1929 plant was the principal shipping point for the cannery and included a processing plant, six warehouses, and pier. The situation of the Levins' Sons cannery on the periphery of Leipsic and on the river itself represented a different solution from the situation of Port Penn's Zacheus cannery which stood on the inland western edge of town well away from the public wharves. In the former case, the owners were able to take advantage of the Leipsic River's twisting course to position themselves both on the town's periphery and adjacent to its waterfront. In the latter instance, the Zacheus family settled for a site on the edge of Port Penn that required them to transport their product down Market Street, past the Cleaver mansions and store, and out the town wharf to the steamboat landing.

The range of individual properties that composed the Leipsic landscape is described in the nearly sixty insurance surveys issued for town property owners in the two decades prior to the publication of the 1868 Atlas. Located in the center of town were shops and offices for a druggist, doctor, shoemaker, and tailor. A 12 by 18 foot frame saloon stood near the waterfront. Seven policy holders insured the contents of their stores. Away from the center of Leipsic stood the town sawmill and gristmill for which the owner bought protection for the mill machinery and lumber stock. Near the western edge of Leipsic on Front Street above Denny stood the wheelwright, carriage trimming, and paint shop of Robert M. Hopkins. Houses on the periphery tended to be modest in size and finish. Situated along Second Street on the town's southern edge the house of Thomas Maclary presented an irregular roof line with its 16 by 19 foot two-story core and 12 by 14 foot wing. Next door, Elizabeth Finlaw occupied a two-story, 16 by 20 foot frame dwelling encumbered with a smaller back building, an 8 by 12 foot shed kitchen. Reese Taylor

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<sup>91</sup> *Atlas of the State of Delaware*, p. 49.

occupied the house two doors east of Maclary. His residence consisted of a two-story, 16 by 18 foot main block with a one-story 12 foot square back building. Behind these houses and others throughout the community stood one or two outbuildings most often consisting of a meat house or small carriage house and stable. Of all the insurance surveys for Leipsic from 1854 to 1868 only the policy for Jarvis and Brown mentions a property of specifically maritime character. In 1850 they insured "a quantity of Lumber Consisting of Ships Plank from 2 to 8 Inches thick in and about the Steam Saw & Grist Mills in Leipsic." Not a single policy described a building that related directly to marshland occupations.

Despite their different origins (Port Penn's from an ambitious mercantile imagination; Leipsic's from the conversion of casual settlement into a more or less formal town plan), the two communities shared several features in 1868. Both possessed a definite waterfront and a clearly defined transportation link to the back country. Both communities had reasonably well defined central commercial districts, also containing a mix of residences and public functions. Both Leipsic and Port Penn were characterized by the presence of an intermediate functional area containing smaller retail stores, churches, and the densest residential concentrations. Finally, both villages had a periphery of diminished residential use and rising industrial purposes. The periphery was also the location of each community's schoolhouse. A key difference between the two settlements is also revealed in the 1868 maps. Where Port Penn began on a conceptually grand scale and languished, Leipsic originated in a more modest vision that according to the projected streets on the 1868 map was continuing to expand.

The third river town discussed in the marshland historic context is Little Creek. Little Creek was and remains the least urban of the three communities. The 1868 map illustrates a modest line town of irregularly placed houses fronting a single street that leads from the farmlands to the north down to Little Creek on the south. There is no evidence of a town plan and certainly no effort at introducing even the rudiments of a grid. Little Creek as a so-called "line town" (a nucleated settlement strung along a single road) does share certain structural similarities with Port Penn and Leipsic. Although the single street intersects Little Creek at right angles and continues southward through East Dover Hundred, the town still functionally faces its waterfront. Closest to the wharves is Little Creek's commercial core which in 1868 was dominated by the stores of W. H. Hobson & Co., "Dealers in Dry Goods, Groceries, Boots, Shoes, Hats, Caps, Hardware, Tinware, Paints, Oils, Drugs, &c." and his rival J. McGonigal, dealer in the same commodities plus "Liquors".<sup>92</sup> The location of McGonigal's store on the river bank is reminiscent of the commanding commercial situations enjoyed by the Cleavers of Port Penn and Denny & Snow of Leipsic. The town that extended to the north in 1868 consisted almost entirely of dwellings. The churches, retail stores, and other structures that filled the streets of Port Penn and Leipsic appear to be absent from Little Creek. Neither is there a post office at the town's commercial center. Like Leipsic, however, the houses of "captains"--most likely the commanders of sail oyster schooners--are clearly identified. All that

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<sup>92</sup> *Atlas of the State of Delaware*, p. 45.

distinguished the periphery of the 1868 village was the schoolhouse. As in the other towns, the school was placed at the very edge of the community in a gesture that clearly connected the agricultural interior to the river-oriented towns.

Like Leipsic, Little Creek is well represented by private insurance surveys made through the 1850s and 1860s. The ten dwellings insured at "Little Creek Landing" ranged in quality from Julianna Jones's "2 Story frame House 16 x 16 ft with Kitchen attached 8 x 8 ft 1 room above 1 below"<sup>93</sup> to Timothy Slaughter's palatial 18 by 40 foot two-story frame residence with its attached 18 by 20 foot, one-and-a-half-story kitchen, 10 by 18 foot pantry, and 8 by 30 foot piazza. Two of the houses insured in Little Creek are associated with "captains" (presumably local oyster schooner captains). Captain James Hollingsworth (clearly identified on the 1868 atlas) inhabited an impressive 30 by 22 foot frame dwelling with an attached 16 foot square one-story kitchen. Far more modest was Captain David C. Montgomery's 19 by 29 foot, one-and-a-half story log house with a 9 by 10 foot kitchen. Montgomery invested in several home improvements between 1867 and 1877. First, he added a ten by 22 foot, one-story shed. Later Montgomery had the main building raised to two full stories and joined to a new two-story back building. Montgomery and Hollingsworth's houses compared favorably to Captain William Morris's Leipsic dwelling. The frame, two-story, 16 by 18 foot house was graced with front and side porticos and equipped with a 9 by 14 foot back building and an 8 by 14 foot kitchen. Despite their obvious association with marshland life and work, these mariners' houses exhibit no distinct features that distinguish them as a physically identifiable property type. Associated outbuildings such as Morris's meathouse or stable and carriage house may have doubled as places to process game (skinning or picking sheds) or as storage areas for nets, small watercraft, and other marshland paraphernalia. Those sorts of functions, however, were not the concern of the insurer or the policy holder.

The difficulty in identifying and listing marshland property types within the larger property type of river towns is also reflected in the "Historic Resources of Leipsic and Little Creek" National Register of Historic Places nomination. The nomination lists three of the converted oyster schooners still working the Delaware Bay and several stores, but the most common property type is houses. Some of these dwellings, like the Maclary House (K-1598), have been linked through documents to the households of watermen and their families. The majority of dwellings, however, are connected to the lives and lifestyles of the two towns merchants and real estate developers.

A review of the information contained in the 1868 atlas maps of Port Penn, Leipsic, and Little Creek reveals patterns of both similarity and difference within the larger river towns property type. Marshland occupations generally are not reflected in the town plans or in the buildings that line their streets. Still, the presence of particular marshland property types such as the dwellings for fishermen and their families, wharves, net yards, and ship chandleries are well documented. Thus, the constituent

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<sup>93</sup> Kent County Mutual Insurance Company records, policy 312, 1852.

elements of river towns (not the towns themselves) illustrate and embody the historic context. The river towns, with their very different origins and histories, are a functional property type more closely associated with the historic theme of Delaware towns and town planning.

Specifically, to be considered eligible for nomination to the National Register of Historic Places as a river town under the Marshland Historic Context, a town must meet the following physical criteria. First, it must be located on the river front or at the first point of fast land on a creek or river leading to the Delaware River. The town must also demonstrate a connection between the historic residents and the marsh and/or river as a source of economic support. A river town as a property type must exhibit the dependence of its inhabitants upon the river for survival. If this dependence is not demonstrated, the town would not be eligible as a river town under the Marshland Historic Context.

Second, the town must contain evidence of a significant number of the following property types in a condition that would render them physically eligible for nomination to the Register: wharves, merchants and watermen's homes, stores and commercial enterprises, warehouses, maritime-related outbuildings (such as muskrat skinning sheds, boat houses, etc.), fish houses or stands, and boats. These buildings should exist under conditions that meet the criteria for eligibility for their particular property type as specified in the previous chapter. While it is not expected that a town will contain all of these property types in eligible condition, sufficient material integrity should remain to establish the character of the river town and its relationship to the marsh economy. If there has been extensive degradation of the architectural integrity of the resources related to the period of significance, or if a majority of the resources identified through documentary sources as existing in the period of significance have been destroyed, the integrity of the river town must be considered to be compromised, thus rendering the river town as a whole ineligible.

#### IV. Fluctuation and Decline of Marshland Industries

The Delaware Estuary continually provided support for residents of river towns and the surrounding area. The type of support varied over time, beginning with fish, wildfowl and game as supplements to the diet. Later, as transportation and ports improved, the emphasis shifted to a market economy. The immense popularity of the native fish, wildfowl, and game in regional and foreign markets produced a shortage in the availability of these natural resources. These shortages led to the regulation of commercial and sport fishing and hunting. Decline in the availability of fish, shellfish and waterfowl ultimately led to the decline in the cultural resources associated with the river and marshland industries. This chapter will discuss the pattern of fluctuation in marshland resources along the Delaware River.

Access to the river for hunting and fishing concerned area residents as early as the late seventeenth century. Those who did not own land fronting the river were dependant upon other landowners or public roads for access to this source of food. In 1740 residents of Kent COunty in the vicinity of Dover sought to protect their right to maintain these ties to the river ,a vital element of survival for the inland residents. In their petition to the legislature they pleaded:

That for this fifty odd Years without any Interruption your petitoners have had Two Publick Roads Down to the Bay Side, (that is) down to Kits Hamack Also to the Cockel Bar by the Loan Tree which was of Great Benifit, and diversion, for fishing and fowling to us your petitioners and Many Others...<sup>94</sup>

Local inhabitants filed petitions about other aspects of transportation to the bayside as well. The presence of numerous creeks and other small tributaries often hampered travel, and the transportation of goods, for people who lived in the hinterlands. Residents of St. Jones Neck and Murderkill Hundred requested the "opening of a public Road and erecting a Draw Bridge across St. Jones's Creek ... [to] open a short and convenient passage for the back inhabitants to the Bayside for the purpose of Fishing, [and] Oystering."<sup>95</sup> These petitions, and others of a similar nature emphasize the importance of the river as a regular source of food. Archaeological records indicate that Delaware residents continued to supplement their diet with native fish and game long after other areas such as the Chesapeake Bay had converted to a dependence on domestic products.<sup>96</sup>

The pattern of subsistence fishing, oystering and trapping persisted through the early 1800s

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<sup>94</sup> John Dickinson Papers, File #117, May 1740; Delaware State Museums, Dover, Delaware.

<sup>95</sup> John Dickinson Papers, File #117, 1794; Delaware State Museums, Dover, Delaware.

<sup>96</sup> Chuck Fithian, archaeologist, Delaware State Museums; personal communication based on current review of colonial period archaeological sites in Delaware; 17 May 1993.

when commercial activity began to increase. River towns such as Leipsic and Little Creek established themselves as port towns capable of shipping large quantities of agricultural products and muskrat pelts. Areas that did not have good ports recognized their deficiency and petitioned for better access to markets, even if they were required to bear the financial burden:

the citizens of said county (Kent), and particularly the inhabitants of the Town of Dover and adjoining districts, labour under great disadvantages for want of a veritable outlet for their exports. With an extensive country, fruitful in agricultural products and abounding in other sources of commercial wealth, and with a noble bay stretching along the whole line of their county, they are almost deprived of the benefit of commercial intercourse with the rest of the world for the want of convenient access to some port on the said bay and the proper means of communication with the interior. Their present commerce is conducted exclusively by small shallops, along a tedious and difficult creek navigation . . .<sup>97</sup>

The petitioners proposed to remedy this situation by financing a railroad line from Dover to Mahons River by means of a public lottery. The improved access to markets motivated more residents to turn to the river and marshes as a source of profit. At the same time, agriculture suffered a general decline, providing available workers for the establishment of large scale fishing operations. In addition, there was a growing demand for exotic foods on a local and regional basis. Hotels and hunting lodges began to spring up as city dwellers took steamship vacations on the Delaware River. These establishments, as well as hotels, restaurants, and markets in the cities of Baltimore, Philadelphia, and New York, demanded the fresh products of fish and game provided by the river and marshes. The native foodsource consumed only for survival became the delicacy of city dwellers unfamiliar with the environment and reputation of shad, sturgeon, muskrat, and wildfowl.

The sudden increase in consumption of fish, oysters, and wildfowl created a shortage of the natural resources. Regulations that had never been an issue--limitations on fish catches and the number of water fowl that could be taken, for example--suddenly became important as the livelihoods of commercial fishermen and hunters were threatened by depletion of the supply.

### **Early Regulation**

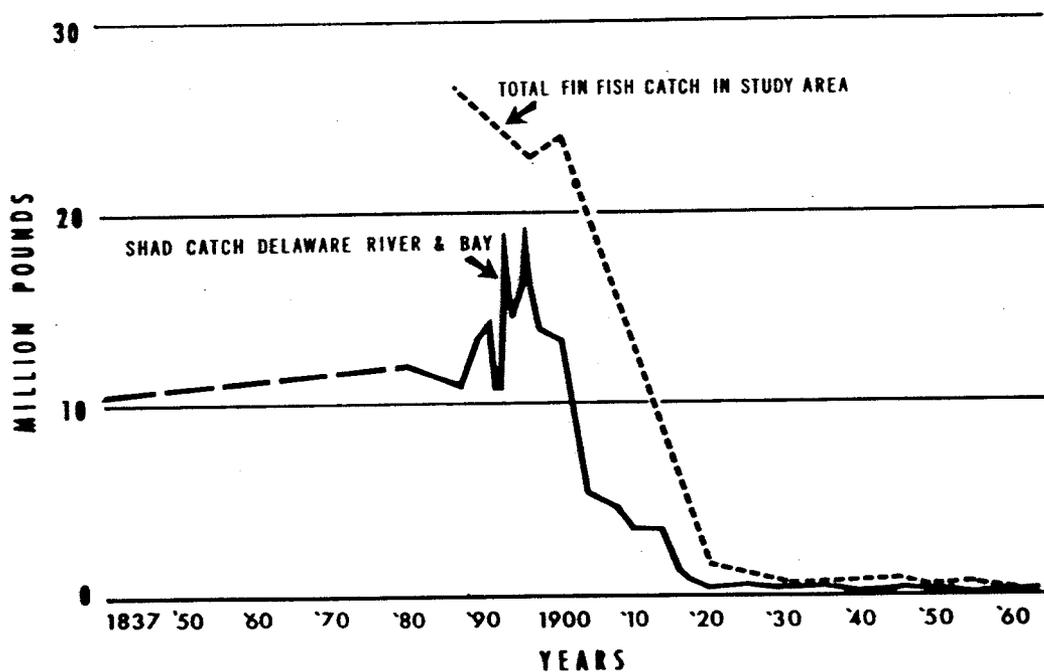
Citizen and commercial concern over the natural resources of the Delaware River spurred the state to become involved in regulating the resources of the river and bay. Fish populations were carefully monitored, providing a comparison of catch figures (Table 3). Speculations on the cause of such decline included 1) pollution from the urban areas of Philadelphia and Wilmington; 2) depletion of the natural resources from over-fishing or over-harvesting; and 3) "siltation from farmland, suburban development, and river dredging operations."<sup>98</sup> Dredging also disturbs spawning grounds and the smaller fish and

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<sup>97</sup> Legislative Petitions, January 1839; Delaware State Archives, Dover, Delaware.

<sup>98</sup> Everett L. MacLeman, Project Director. Delaware Estuary Comprehensive Study. Department of the Interior, Federal Water Pollution Control Administration: Philadelphia, 1966.

**Table 3**  
**Historical Variation in Finfish and Shad Harvests**  
Source: *Delaware Estuary Comprehensive Study, 1966.*



plants that are the food source of larger fish.<sup>99</sup> In response to the decline, laws to restrict various activities associated with the maritime resources were enacted. One of the earliest of such laws was passed on February 15, 1839, to protect the "fish and game in and on the waters of the Delaware bay and river, and the streams tributary thereto, within the limits of the state."<sup>100</sup> This act made it unlawful for non-residents to enter into Delaware marshes or waters

with the intent to rake, gather or collect any oysters, terrapins, clams, or other shell-fish, or to take in any way, or by any means whatever, any shad, herring, eels, perch, trout or other fish, or to hunt shoot, or kill any geese, ducks, fowls or birds of other kind whatever . . . in or upon the said waters, lands or marshes.<sup>101</sup>

In order to protect the overall fish population and the reproduction rate of terrapins, the law also prohibited the use of gill seines or nets "within or nearer than one mile to the mouth of any creek, emptying and flowing into the said bay or river"<sup>102</sup> and the collection and destruction of terrapin eggs.<sup>103</sup>

This law was one of the first enacted to protect the resources of the river from Pennsylvania and Maryland residents who would make the short journey to the Delaware River. This limitation temporarily took some of the pressure off of the fish, shellfish, and waterfowl populations. It also provided economic support for Delaware watermen by limiting their competition. In March 1851, another law was passed to allow non-resident fishermen to work the waters with a license and fee, provided that the boat they were working on belonged to a citizen of Delaware.<sup>104</sup> This law subsequently vacillated between completely prohibiting fishing by non-residents and allowing them to do so with a license.

### **Shad Populations**

Records from a family of shad fishermen in New Jersey provide early figures on annual shad catches. Before 1825 the average catch for this family was around 130,000 fish per year. By 1873 this

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<sup>99</sup> *The Delaware River Basin: An Environmental Assessment of Three Centuries of Change*. Council on Environmental Quality, 1975, p. 20.

<sup>100</sup> Laws of Delaware 1835-1843, Volume 9, p. 263.

<sup>101</sup> Laws of Delaware volume 9, p. 263.

<sup>102</sup> *Ibid.*, p. 264.

<sup>103</sup> *Ibid.*, p. 265.

<sup>104</sup> Laws of Delaware, volume 10, 1845-1852, p. 562-3.

figure had fallen to less than 25,000 shad per season.<sup>105</sup> Reasons for this decline include gill net fishing, death of young shad in eel traps, and the construction of the dam at Lackawaxen, Pennsylvania, in 1823. To combat the decline in shad population and protect the long-term interests of fishermen, regulations were put in place to restrict the placement of seines in the river<sup>106</sup> and eel traps or nets.<sup>107</sup>

These regulations, the construction of a fishway (to aid in migration to spawning grounds) at the Lackawaxen Dam, and artificial propagation of the shad allowed the fish to again prosper in the river by the early 1890s. The increase in available fish led to the largest commercial catches in the Delaware Basin by the late 1890s with figures ranging to 19 million pounds annually.<sup>108</sup> Despite this resurgence in shad population, over-fishing and the early stages of pollution led to another decline, this one much more rapid. By 1908, the annual catch "had dropped to about 4 million pounds and by 1921 to 210,000 pounds."<sup>109</sup> This was a significant blow to the commercial shad fishery. Although fishermen continued their trade, catches remained well below the former highs and never again attained such prosperity.

### **Sturgeon Population**

The sturgeon catch of the Delaware River also suffered from over-fishing and pollution. Regulations put in place to encourage growth in the population included time restraints on the season for sturgeon fishing:

it shall not be lawful for any person or persons to take, capture or kill in the waters of the Delaware bay, the Delaware river or their tributaries, or have in their possession after the same have been taken, captured or killed, any sturgeon between the thirtieth day of June and the thirty-first day of December in any and every year.<sup>110</sup>

When the eggs of the female sturgeon became popular for caviar, the reproduction rate of the fish population was affected due to the great numbers of fish that were taken. This coupled with the slow growth rate and the lengthy period to sexual maturity resulted in a decline in available fish population. Legislation was passed to protect the younger sturgeon in hopes that they would reach maturity and reproduce, thereby increasing the total population:

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<sup>105</sup> Robert Beck, "The American Shad Fishery in the Delaware River Basin," in *The Island Paper*. Date and issue unknown.

<sup>106</sup> Laws of Delaware, 15 April 1891.

<sup>107</sup> Laws of Delaware, 22 March 1877.

<sup>108</sup> Material excerpted from Robert Beck's article, "The American Shad Fishery in the Delaware River Basin."

<sup>109</sup> Beck, "The American Shad Fishery in the Delaware River Basin."

<sup>110</sup> Laws of Delaware, 19 May 1897, p. 476.

It shall not be lawful for any person or persons to cast, draw, set, anchor, drift, or stake, any gilling net, seine or shore-net, or any other device or appliances of any kind whatsoever, for the purpose of catching fish commonly called or known as mamnose [young sturgeon] under three feet in length, in the waters of the Delaware bay, river and their tributaries, within the jurisdiction of the state of Delaware . . . any fisherman who finds such fish entangled in his net shall immediately, with care and with the least possible injury to the fish, disentangle and let loose the same and transmit the fish to the water without violence.<sup>111</sup>

### Waterfowl Hunting

Populations of reed birds, ducks, and geese in the Delaware estuary were plentiful in the nineteenth century, providing recreational hunting and a steady food supply to inhabitants of the area. Delaware legislation was enacted as early as 1859 to restrict the season in which ortolans and reedbirds could be hunted to September 4 through June 31.<sup>112</sup> Similar laws existed in Pennsylvania :

Four hundred rail birds were killed on the marshes . . .by pot hunters from Philadelphia. They left this place in the cars, under cover of darkness, with their spoils, fearful, perhaps, that they would be required to pay a penalty for violating the law. The act now in existence, prohibiting the shooting of rail and reed birds out of season, deficient in one of its provisions will be so amended by the next Legislature as to enclose within its meshes, being the possibility of escape, those who now violate it with impunity.<sup>113</sup>

The type of gun used to hunt waterfowl was also regulated. The large, cannon-like punt gun was capable of killing many birds in one shot due to the large capacity of the barrel. In 1885 it became "unlawful for any person to shoot at or kill any wild-goose, swan, duck, or other wild fowl, with any device or instrument known as a swivel or punt gun, or with any gun other than such as are habitually raised at arm's length and fired from the shoulder."<sup>114</sup>

Fluctuation and decline of marshland and maritime natural resources led to a corresponding decline in cultural resources. Over-fishing and pollution resulted in a decrease in the availability of fish and thus fewer active commercial fishermen. With fewer fishermen, boats, nets, and other equipment being produced and repaired, the physical resources associated with the fisheries began to disappear. The decline in various types of waterfowl also led to fewer hunters and the disappearance of the cultural resources associated with waterfowl hunting.

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<sup>111</sup> Laws of Delaware, Volume 19: 1891-1893, p. 264.

<sup>112</sup> Laws of Delaware, 2 February 1859, p. 613.

<sup>113</sup> *Delaware County Republican*, 31 August 1866.

<sup>114</sup> Laws of Delaware, 9 April 1885, p. 734.

## V. Evaluation of Existing and Lost Resources

The development of this context provides the basis for two different types of conclusions about marshland communities, activities, and the property types that support those activities. First, a number of areas of research were identified that could not be pursued; they are discussed here as information needs. Second, there are specific conclusions regarding the process of evaluating resources related to the marshland historic context.

### Information Needs

All fully-developed historic contexts must identify areas of information needs not adequately addressed by the context. Sometimes these are issues that arise during the research process; in other cases they are questions that relate to the context but are clearly outside the scope of the current project. This historic context has identified several areas that require further development.

**Identification of property types.** The primary information need for marshland cultural resources remains one of identification--specifically in terms of resources fitting the property types eligible for listing in the National Register of Historic Places. This historic context identifies areas of potential property types that can be divided into three categories: buildings and structures, landscape features (including sites), and certain classes of artifacts such as small watercraft. The full range of functional and associative property types within these categories, however, remains to be identified. For example, the existence of floating fisherman's cabins was unknown to cultural resource surveyors in Delaware until a single example was identified in the course of fieldwork undertaken for the National Register of Historic Places thematic nomination on "Dwellings of the Rural Elite." Subsequent research by Natalie Peters demonstrated the extensive presence and use of these waterborne dwellings on both sides of the Delaware River and Bay. The potential for the existence of comparable, and as yet unknown, property types remains possible.

The identification of property types must proceed from three areas of evidence, each of which enables us to predict types, circumstances, and location of classes of historic resources. Documentary sources, such as manuscript census returns or insurance surveys, enable us to identify types of work, objects, and structures associated with the historic theme of marshland life and work. Similarly, oral histories often reveal comparable information about past occupations and landscapes. Together, written records and oral testimony identify particular categories of activity which employed, or resulted in the making of, associative and functional property types. Thus, the identification of historic property types from these sources builds on the kind of predictive modeling used by archaeologists. The third area of

evidence is the landscape and its historic features. A thematically defined comprehensive cultural resource survey that examined landscape features ranging from marsh channels to boat landings would generate a sense of associative property types. Again, the strategy is to predict the incidence and presence of property types from a second source. In the case of the landscape as evidence we should also consider the comprehensive inventory of historic resources by functional or associative type--such as a comprehensive small craft survey or a thematic survey of the migratory fishery.

**Assessing ephemeral resources.** Without question the most pressing informational need remains centered on the question of ephemeral resources. The research for this historic context has revealed entire categories of social and occupational activity associated with Delaware's marshlands for which there are either no surviving historic resources or the resources under consideration fall far short of the fifty-year rule for listing in the National Register of Historic Places. With Delaware's twice daily six-foot tides, intensive backcountry agriculture and industry, and periodic storms, the marshland landscape constantly changes. Accordingly, landscape resources such as muskrat trapping or turtling grounds mapped in the 1930s (or even in the 1980s) no longer display their historic characteristics. Quite simply marsh banks erode and muskrats move their dens and runs. The result is entire categories of historic resources that lack integrity within existing National Register guidelines. Consequently, one of the greatest information needs--**planning criteria**--stems from the very nature of the resources under consideration.

The problems with the ephemeral nature of marshland cultural resources extend beyond loss of artifacts, short-lived structures, and changing landscape, and encompass the archaeological record. Many of the activities associated with the historic uses of the wetlands leave little or no archaeological trace. A "scow dive" where a floating cabin may have been staked, a muskrat trapping ground, or a hunter's gunning blind can disappear in the course of months. More durable sites such as backlot boat yards, village landings, wildfowl plucking sheds, and flimsy private wharves are likely to leave more lasting traces. How diagnostic the archaeological evidence from such sites may be, however, is another difficulty. Archaeologically, what distinguishes a plucking shed from a skinning shed?

**Comparison to Chesapeake Bay Marshland History and Culture.** Separated by the narrow land mass of the Delaware-Maryland-Virginia peninsula, the Chesapeake and Delaware estuarine systems appear at first glance to share a common topography and culture. Yet existing research shows that while the two ecological systems support many of the same flora and fauna, they do not share the same culture of marshland work. The distinctions between the "textures" of historic activities and their associated property types on the Chesapeake and the Delaware are many and subtle. A clear information need is a detailed comparative look at the types and uses of marshland cultural resources found in the two estuarine systems. The two major questions at the center of this comparative analysis are 1) to what extent can the methodologies, interpretations, and preservation planning efforts of the Chesapeake be

applied to the Delaware side of the peninsula, and 2) what are the factors (cultural, historical, and environmental) that link and separate the cultures of these two watersheds? Two activities of particular note are wildfowl hunting and muskrat trapping. Pursued on both sides of the peninsula these marshland occupations did not enjoy the same economic status or employ the same techniques in each of the two environments.

Recreational or "sporting" wildfowl hunting on the Chesapeake, for example, appears to have been capitalized as a major source of income well before similar developments were pursued on the Delaware. Evidence for these developments are found in property types such as gunning hotels, decoy carving sheds, and guides' houses. Both watersheds possess a variety of habitats and the techniques and property types associated with wildfowl shooting shows historic variation within the region. Victorian hunters on the upper Chesapeake, for example, would stay in the hotels of towns like Havre de Grace and shoot canvas backs from sink boxes over large rigs (250 or more) of decoys. Farther south, hunters set out considerably smaller rigs of decoys and would shoot from small gunning skiffs or bushwhack boats. Sport hunting did occur on the Delaware side of the peninsula at a comparatively early date (mid nineteenth century), but shooting for sport seems to have been largely confined to the area just below Philadelphia and largely focused on pushing for rail in double-ended gunning skiffs and some open-water hunting from small craft like sneak boxes and Delaware duckers for teal and black duck.

Similarly, muskrat trapping on the Delaware appears to have been developed more extensively than on the Chesapeake. Histories and ethnographies of Chesapeake folklife make almost no mention of muskrat marshes or trapping. On the Delaware side of the peninsula the history of muskrat trapping for food and fur extends back at least to the late eighteenth century when local inhabitants petitioned the state legislature for public access to certain marshes. Property types like skinning sheds and trapping marshes, relatively common along both sides of the Delaware, are either largely unremarked or simply not found on the Chesapeake.

Information needs in this area must address the relationship of natural habitats, ecosystems, and topography to the range of marshland cultural activities and to the functional and associative property types they include. They must also address similarities and differences between the two watersheds on an activity by activity basis. Why do the two sides of the same peninsula harbor such divergent marshland activities? How are they the same? What is the significance of their similarities and differences?

**Relating cultural history to ecohistory.** The Delaware estuarine environment is extremely complex and has changed dramatically through thousands of years of prehistory into the present. Among the primary information needs required in the future is the development of an ecological history of the Delaware marshlands that relates their changing character directly to effects by and on human use and occupation. The field of ecohistory is still largely in its infancy, although notable examples such as William Cronin's *Changes in the Land* provide workable methodologies and insightful interpretations.

The projected scale of a detailed Delaware estuary ecohistory that would cover just the property types and historic activities discussed in this historic context would be immense. Still, ecohistories relating to specific categories of historic activity will be essential for any National Register of Historic Places endeavor. The need, then, is for an ongoing series of ecohistories that relate directly to specific aspects of marshland cultural resources under investigation. For example, a focused historic context and nomination dealing with muskrat trapping in the early twentieth century should move beyond the simple documentation of property types and cultural activities and connect them to larger ecological changes. The change in marshland flora from cattail to phragmites (*Phragmites australis*) marshes is an ecological transformation of enormous consequence to the history of trapping. Did the change in the marsh occasion comparable alterations in how trapping was conducted? Were the functional property types associated with trapping affected by the changing face of the marshlands? The natural and cultural history of phragmites represents an important individual element in the need for a broader ecohistory of the Delaware marshes. Consequently, the ecohistory of phragmites should be seen as a distinctive information need related to the larger field of a Delaware ecohistory.

A second area of primary concern in terms of ecohistory information needs addresses the history of pollution in the Delaware. The popular sense of pollution history places the degradation of Delaware's marine environments in the early to mid twentieth century and fixes responsibility for the loss of habitat on industrial activities ranged along the shoreline. The history of shoreside industry as it effected marshland ecosystems and cultural activity through landfill, effluent, oxygen depletion needs to be organized around a chronology of industrial pollution by type and effect. Not all pollution in the Delaware is industrial. Two other areas of pollution history that affected on marshland cultural resources are the intensification of agriculture (including large area plowing and soil erosion, insecticides and herbicides, and fertilizers) and municipal sanitation and landfills (including solid waste disposal and sewage treatment). Agricultural and municipal pollution need to be reviewed in terms of historic developments and their impact on the ecohistory of the Delaware and its cultural and natural environmental resources.

Research relating cultural history to ecohistory must establish the environmental history of the marshes in concert with historically emerging and changing forms of activity and property types. Without a sense of ecohistory we will only incompletely understand marshland cultural resources and we will be able to act only according to limited, questionably successful strategies as we seek to establish preservation planning goals in the larger scenario of broad-based environmental planning.

**Diversity Issues.** One of the primary information needs for future work in marshland historic contexts relates to issues of ethnicity and gender. Scattered references from the nineteenth and twentieth centuries suggest that marshland life and work involved African-Americans, Native Americans, and women. Documentary evidence from the early nineteenth century, for example, reveals the presence of African-American fishermen all along the Delaware coast. Coroners inquests recorded in

Sussex County describe African-Americans hauling seine along the shore of the inland bays, fishing with hand lines in the Atlantic and on the Nanticoke River, and treading and raking clams. The extent and influence of the African-American fishery is difficult to gauge, but preliminary findings indicate that it was extensive and may have had a major role in shaping Delaware fishing traditions. Despite the lack of direct evidence, indirect sources such as coroners inquests, law suits, and legislative petitions record sufficient detail for piecing together a general picture of the African-American fishery. Similarly, attention needs to be directed toward describing the contributions of Native American traditions to the Delaware fishery in the historic period.

Gender as it relates to marshland occupations also remains an information need. The manuscript censuses for Port Penn, Leipsic, and Little Creek list no women employed in Delaware's fishery. Yet oral histories reveal that, at least in the early twentieth century, women did participate in the marshland economy in a variety of ways. Some women earned their livelihoods by running boarding houses for fishermen and others were employed in maritime trades. A few women are known to have fished, trot lined for crabs, or knitted nets. Specific information needs related to gender should begin with an inventory of women's occupations related to the marshland economy as well as pursuing more traditional lines of inquiry concerning the domestic and household management dimensions of the "woman's sphere" related to the larger marshland historic context.

**Exploring regional and national historical developments related to marshland cultural resources.** Just as marshland cultural resources reflect and represent changes in the native environment, they also respond to larger patterns in regional and national history. Several of these areas of related historical inquiry represent significant information needs. These information needs, which must relate back to marshland cultural resources, include technological change, military conflict, and the rise of urban markets coupled with the transformation of cosmopolitan tastes.

**Technological change** includes such diverse phenomena as the design of crab pots, the introduction of internal combustion engines into small craft, and the extensive development of regional transportation networks. The effects of technological innovation consequently range from changes in the actual activities of fishing and trapping to marketing game and other marshland "produce" in urban markets. The introduction of small engines into shad skiffs, for example, enabled participants in the local fishery to maneuver their craft free from the vagaries of the wind or grinding effort of rowing. Flexibility and ease likely translated at first into increased productivity, and then, over time and through over-fishing, into reduced catches. Similarly the introduction of crab pots signaled a new, or least radically enhanced dimension in the Delaware fishery. Unlike the Chesapeake, there is little mention of crab recipes in Delaware cookery even as late as the early twentieth century.<sup>115</sup> Additional research should focus on the

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<sup>115</sup> According to Mary Kopco, curator at the Delaware Agricultural Museum, crab is omitted from the early recipes of Delaware. Personal communication, 17 May 1993.

types of technological innovation, dates of invention and introduction, and the direct impact of technology on marshland activities.

Technological change also needs to engage the question of regional and national trends. Most notable are changes in transportation and how they relate to gaining access to the marshlands and to shipping marshland produce into urban markets. Again, two specific areas of information need have been identified: the impact of railroads in the nineteenth century and the effect of automobile and truck transport in the twentieth. The opening of the Delaware backcountry by railroad in the mid-1800s was geared to gaining commercial access to agricultural produce. Only in later decades did rail spurs begin to connect Delaware's marshland communities to a regional high speed transportation network. Moreover, historical documentation suggests that long after the introduction of the railroad into the region, the bulk of Delaware's marshland harvests continued to be moved by water northward to Wilmington and Philadelphia. The information needs in terms of railroad transportation are fairly specific. When did the railroads provide access to marshland communities? How was railroad access provided, and when? What percentage of marshland produce was shipped by rail, and what kinds of game, fish, and other produce required the rapid transport afforded by rail? Did railroads supersede river traffic related to marshland economic activities?

The same questions should be asked of the advent and development of automobile and truck transportation. When did automobiles begin to become common in marshland communities? Did automobiles supersede transportation advances made by railroads or did they provide the vehicle for the first real shift away from river transportation? Among the many questions to be asked in this areas are specific ones about how transportation changes affected marketing. In the early twentieth century, shad and oysters were acquired by "buy boats" or "lay boats" which plied the harbors, floating cabin villages, and open waters of the Delaware. Did the advent of truck transport and improved road systems provide the impetus for shifting away from this older, historic practice? Thus, technological history in terms of regional and national developments as they directly relate to marshland historic contexts remains a vital information need.

**Military conflict** as it relates to the history of marshland life and work remains an unfulfilled research need. So little is known about this research area at present, that only the bare outline of the problem can be offered here.

The Delaware River and Bay has been the scene of historic military activity since the first engagements between the earliest European settlements. To what extent colonial conflict affected or altered marshland life and work is unknown and the truly scattered and fragmentary nature of existing documentary evidence suggests that we may only be able to recover aspects of this history on a case-specific basis. For example, the Revolutionary "battle" between a British ship of war and a Delaware shad galley tells us that Delawareans fished for shad with a now extinct vessel known as a galley--and little more.

The British occupation of Philadelphia may describe a closing down of the regional fishery due to inhibited access. Periodic attacks by eighteenth-century pirates or accounts of landings and sackings offer only the most fleeting glimpses of marshland resources.

The first significant evidence of the effect of military activity related to marshland activities occurs after the Revolution and relates to two areas of activity warranting further research. Both areas of inquiry continue to affect marshland cultural resources through the present day. First, the construction of forts and other military improvements along the Delaware required the filling in of marshlands. Information needs in this area include the need to locate, identify, and ascertain the extent of these marshland building projects, and then to assess their impact on the traditional activities associated with the marshland historic context. Second, military activity typically provided unexpected opportunities and setbacks for local inhabitants. During the Civil War, for example, the citizens of Port Penn set up an economic and humanitarian sideline providing goods to inhabitants (prisoners and guards alike) of Fort Delaware. How did this activity affect the economic and social uses of the marshlands? Did Fort DuPont at Delaware City or the quarantine station on Reedy Island offer any impact on marshland activities?

Other **state and federal government actions** along the Delaware coast represent a priority information need. The Delaware marshlands have been the object of public debate since the first meeting of the state legislature. Rights of access to and regulation of the marshland landscape are represented in debates and ordinances over the types of fishing nets that could be used and how they were to be deployed at the mouths of creeks. More recently, Delaware's public conservation efforts have reclaimed large tracks of coastal marshland from industrial interests. What has been the effect of "public policy" on the use, appearance, and character of Delaware's cultural wetlands? Again, as suggested in the Marshland Historic Context, the history and impact of state and federal legislation, regulation, and enforcement has emerged as a major information need.

A final area of regional and national history that had a major impact on Delaware's marshlands is in the area of urban markets and shifts in fashionable tastes relative to clothing and foodways. The history of marshland cultural resources is associated with changes in consumer tastes and fashions. Local markets appear to have been based largely upon barter and credit exchange. These local markets and the domestic consumption of marshland provender are often mistakenly labeled as subsistence activity. Historical research, however, suggests that much of the local fishery even at its most individual level has a market dimension. At the other extreme, marshland foods and furs fed and clothed the waxing appetites of Victorian and early twentieth century urban society. Changes in national taste for game cuisine generated greater hunting, fishing, and wetlands harvesting activity than at any other time in history. Oysters, for example, developed such a lucrative market that they were known as "white gold." Similarly, wildfowl such as canvas backs and black ducks were sought avidly by urban epicures. Even the tiny ruddy duck gained culinary favor at the peril of its species and achieved economic fame as the "dollar duck" of

the late 1800s. The rise in market demand for everything from ducks to muskrat pelts to salt hay brooms is an information need that addresses more than marshland cultural resources. Changes in taste and rising consumption of marshland produce through the nineteenth century also offers insight into the organization of urban markets and transportation systems.

**Submerged cultural resources.** This information need relates directly to sunken watercraft, landings, wharfage, and other cultural resources that exist throughout the geographic area covered by the marshland historic context. The recent fate of the National Register of Historic Places listed oyster schooner *Katherine M. Lee* underscores this information need. No longer useful or serviceable as an oyster dredge boat, the *Katherine M. Lee* was beached in the marsh and allowed to sink down in the mud and break up. While the superstructure of the schooner was lost to the elements and vandalism, the hull survives intact preserved in a wet environment. The abandonment of the *Katherine M. Lee* represents the traditional method of boat disposal. Vessels as large as oyster schooners and sailing rams and as small as gunning skiffs and bateaux as well as abandoned wharves and landings historically have found their end in the muddy bottom of Delaware's marshes. The need for information related to the locations and types of submerged resources is unanswered. This information need requires the development of survey, mapping, and identification techniques particularly suited to the conditions in which submerged resources are likely to be encountered.

### **Process for Evaluating Marshland Cultural Resources**

For an historic resource to be eligible for listing on the National Register of Historic Places, it must meet one of the four National Register criteria for significance through association with a historic context and retain integrity in features considered necessary to convey that significance. The criteria for evaluation are described as:

The quality of significance in American history, architecture, archaeology, engineering and culture is present in sites, buildings, structures, and objects that possess integrity of location, design, setting, materials, workmanship, feeling, and association, and:

**Criterion A.** That are associated with events that have made a significant contribution to the broad patterns of our history; or

**Criterion B.** That are associated with the lives of persons significant in our past;  
or

**Criterion C.** That embody the distinctive characteristics of a type, period, or method of construction or that represent the work of a master, or possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction; or

**Criterion D.** That have yielded, or may be likely to yield, information important in prehistory or history.

Four steps determine whether marshland historic resources are eligible for listing on the National Register:

- 1) **categorization** of the historic resource as a building, structure, object, site, or district;
- 2) **determination** of the appropriate property type;
- 3) **assessment** of the physical integrity of the historic resources; and
- 4) **ascertaining** eligibility under National Register of Historic Places significance criteria A, B, C, or D.

Each of these steps will be discussed in greater detail below.

### **Step 1: Categorizing Eligible Historic Resources**

Marshland cultural resources occur primarily as buildings, structures, and objects, and less frequently as districts. The National Park Service defines buildings as "created to shelter any form of human activity."<sup>116</sup> In terms of the marshland historic context, **buildings** include floating cabins, homes of watermen and shipbuilders, muskrat skinning sheds, hotels, stores, and warehouses. **Structures** are "functional constructions made usually for purposes other than creating shelter;"<sup>117</sup> in the context of the marshland, they include property types such as docks, wharves, net drying racks, and ditches or dikes. Structures also extend to the types and uses of historic water craft. Among the largest vessels are the formerly sail-powered Jersey schooners employed in the Delaware Bay oyster fishery. The three schooners listed in the Leipsic and Little Creek Multiple Resource nomination have all either been scuttled or moved out of state. While Jersey schooners are the largest and most visible of the water craft associated with the historic Delaware fishery they were not the most common. Far more typical in marshes were small sail and oar powered wooden boats such as shad skiffs, sneak boxes, melon seeds, duckers, punts, rail bird boats, and bateaux. Many buildings and structures are associated physically with other property types such as farmsteads and village houses. Muskrat skinning sheds, for example, appear almost exclusively as outbuildings related to dwellings in rural or village settings. The assessment of historic buildings and structures is rendered more complicated by their association with the variety of **objects** required for marshland work. Thus, the muskrat skinning shed includes an array of tools ranging from skinning boards to trapping stakes--all of which contribute to both the significance and integrity of the historic resource.

The real dilemma, however, involves the relationship between historic buildings, structures, or

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<sup>116</sup> *National Register Bulletin* 16, p. 41.

<sup>117</sup> *National Register Bulletin* 16, p. 42.



Figure 56: Port Mahon Lighthouse. This circa 1980 photograph shows the amount of erosion sustained by the structure, which was originally built on fast land. Photo: Bernard Herman.

documentation and preservation of marshland historic resources.

The assessment of marshland historic resources for integrity should include landscape issues. Due to the ephemeral quality of many marshland activities and historic resources, cultural resource surveys should extend the idea of property types to include setting and landscape. Landscape, as revealed in the marshland historic context, knits together multiple, related resources and historic practices as a physical entity. Landscape as property type is a particularly helpful strategy in situations where individual historic resources lack sufficient integrity for listing in the National Register of Historic Places. Ike Cleaver's muskrat skinning shed illustrates this point. The shed, a converted smokehouse, stands behind the Cleaver's ranch house which does not contribute to the current significance of the resource. But the canvas map pinned to the wall of the skinning shed and showing Cleaver's trapping ground links the skinning shed to its historic landscape and setting. As a property type the marsh landscape used and recorded by Cleaver contains the skinning shed as a contributing historic resource. The idea of landscape as a property type gains greater utility when we consider how contributing historic resource like Cleaver's skinning shed enable us to describe the marshland setting as a cultural rather than natural environment. Without the historic context provided by Cleaver's skinning shed and map, we would have difficulty describing the marshland world of tidal ditches and muskrat houses as artifacts. The individual historic resources that collectively reveal the landscape as a physical property type resolve this dilemma. Once the extent of Cleaver's trapping ground has been defined, we can begin to evaluate natural resources such as muskrat houses in terms of their role in economic and occupational contexts. The boundaries and use of the natural landscape renders it a cultural entity. Simply stated, the moment Ike Cleaver staked a trap in the mud next to the muskrat houses in his platted marsh the environment and its landscape features became artifacts as well as elements in the natural world. Treating landscape and setting as property types resolves the apparent paradoxes raised by the tension between cultural activity and natural habitat and between ephemeral historic resources and criteria for physical integrity.

Integrity issues for marshland cultural resources, as outlined above, are extremely complex. First, we must confront the difficulty of ephemeral resources. This is particularly true in evaluating integrity of design, materials, and workmanship for classes of marshland functional property types and historic resources. Second, integrity assessments must address the difficulty inherent in resources that may reflect integrity of practice, use, and purpose, but may lack integrity of physical substance. Third, the discussion of integrity issues for marshland cultural resources must take into account other areas of environmental concern. Wetlands management and environmental policy is an enormously complex area of which cultural resource management is a small, though important, element. Integrity assessments for marshland cultural resources may compete with those for natural environmental resources in the same place. The accommodation of competing concerns is an essential issue which will be addressed in the closing recommendations for goals and priorities.

**1. Location.** Location is the place where the historic resource was constructed or the place where the historic event occurred. The definition of place for marshland cultural resources is rendered difficult as soon as we acknowledge how spatially diffuse many of the activities described in this historic context really are. An example of the problem was vividly demonstrated during January 1977 with a day spent carp fishing with Carl Morris of Port Penn. The fishing process began in the morning at Carl Morris's house and backyard workshed in Port Penn as he readied his nets and gear. An hour or two later the process was situated on the west bank of the Appoquinimink Creek, south of Odessa, where Carl Morris and his crew of one launched their bateau and began to row away from the landing. An hour later the process was located in the drains and tributaries of Appoquinimink Creek where the fishermen netted the carp. By the early afternoon the process was removed to the landing south of Odessa where the catch was unloaded and packed for shipment. Still later Carl Morris was seated in his truck by Route 13 waiting for the "Tidewater Express" driver to stop on his way to Philadelphia and take on the load of carp. Finally, those carp found their way into the heaps of fish displayed in the stalls of South Philadelphia's Italian market. If location is defined by where the process occurs, then how do we locate elements of the marshland fishery in the landscape? Is it Morris's house, shed, wharf, fishing ground (which changes with every tide), pick-up point, or market stall?

The possible solution to this dilemma rests in the practice of tying the full range of activities to particular property types. The fishing ground, as a functional property type, and Carl Morris's fishing ground, as the historic resource, can provide the focus point for the larger sense of location. At the same time, integrity issues dealing with location must clearly identify the range of associated places through what we might consider landscape relations--the idea that integrity of location is defined not just by the physical characteristics of a place, but also by the spatial relationships and movement between associated locations.

**2. Design.** Design is the combination of elements that create the form, plan, space, structure, and style of historic resources. Design includes such elements as organization of space, proportion, technology, ornamentation, and materials. Design issues for marshland cultural resources follow a divide between functional and associative property types. For functional property types, integrity of design will be reflected in how the surviving fabric of an historic resource reflects its historic purpose. Muskrat skinning sheds, for example, were often remodeled smokehouses (Figure 57). The design integrity of a skinning shed depends on how the fabric of the building and its fixtures describe the process of muskrat skinning. Nails for hanging stretching boards, work tables, and related objects such as traps, knives, marsh maps, and clothing all contribute to the integrity of design. Where the historic function of the structure becomes less apparent, the integrity of design relative to the functional property type is diminished.

For associative property types, such as fishermen's houses, integrity of design is more easily

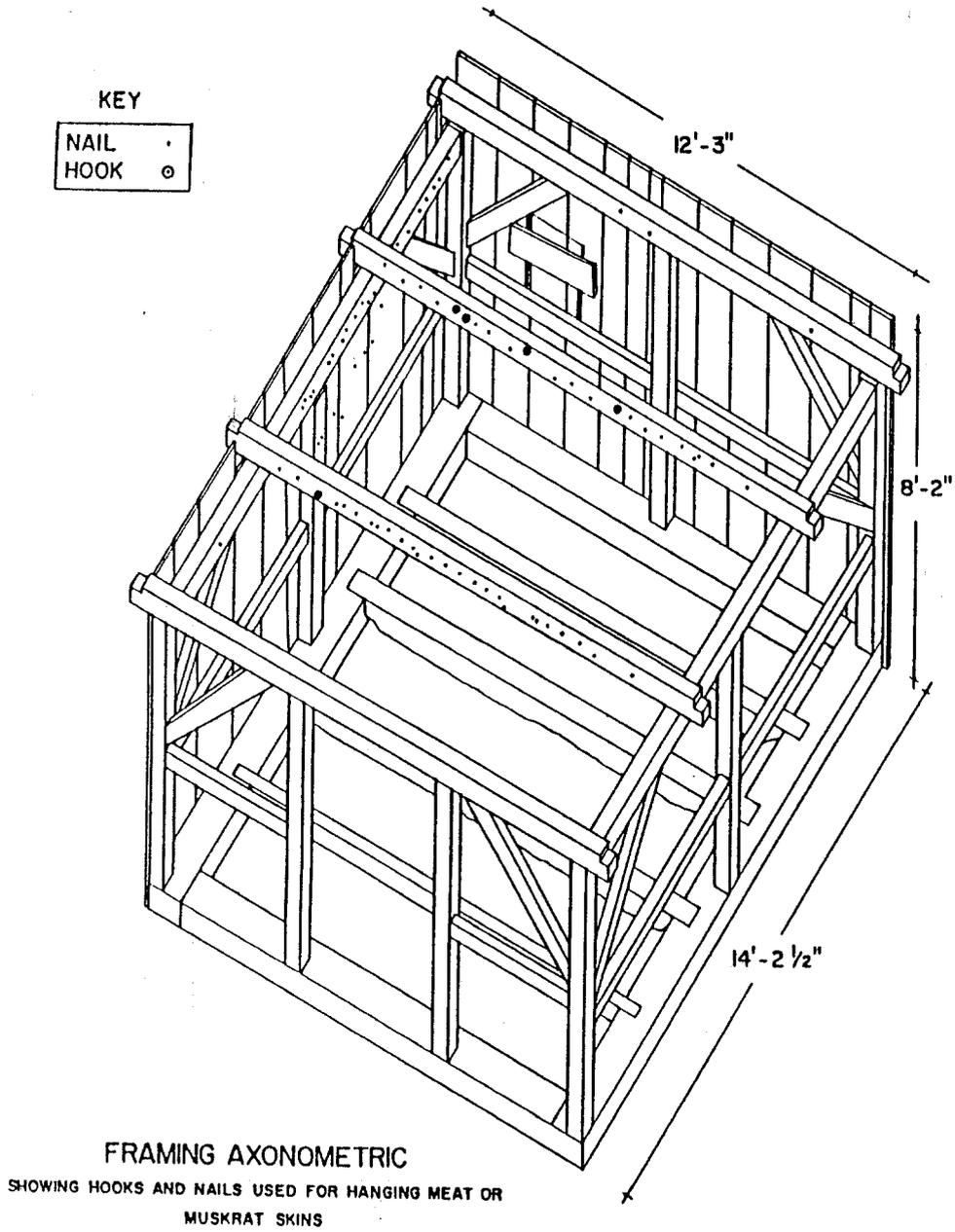


Figure 57: Pratt Smokehouse. This building was first used as a smokehouse and later converted to a muskrat skinning shed. Such a conversion illustrates the changing use of buildings related to marshland activities. Historic American Buildings Survey drawings by Susan Garfinkel, 1986.

resolved. In these cases, the presence of a marshland cultural resources association typically is established either through oral or written documentary evidence. Design integrity develops questions of how well and completely the historic resource relates to the period of significance through the physical attributes of the building. The guidelines for Criterion C are specific in this regard.

Finally, in the evaluation of functional property types we encounter the problem of integrity of design relative to the historic theme but falling well outside the fifty year eligibility requirement. A duck shooting blind may have occupied a position in the marsh for more than fifty years, and the duck blind that is there now conforms in nearly every way to the comparable structure that stood on the site a half century earlier. But, it is a new construction. We have integrity of design in practice but not necessarily in substance (i.e. fabric). We will have to confront this problem for future marshland historic resources planning.

**3. Setting.** Setting is the physical environment of a historic resource. Setting refers to the character of a place in which a given historic resource played its role. It involves **how**, not just **where**, the historic resource is located and its relationship to the surrounding landscape. Aspects of integrity of setting and its relationship to setting have been discussed under **Location**.

Setting may be the most easily established area of integrity for marshland cultural resources. Despite the changing contours, flora, fauna, and lifestyles of the marshlands, their basic character remains intact. The placement of wharves, village landings, hunting blinds, trap lines, boat houses, and other property types in and near Delaware's marshlands describe the relationship between human agency and the natural world. Marshlands destroyed through landfills, industrial development, and other intrusive activities lack integrity of setting. Diminished marshlands are also far less likely to serve as historic evidence for the settings for the full range of marshland related economic and recreational activities.

Integrity of setting in the context of river towns and villages and the buildings they contain follows established guidelines. The essential characteristic for river towns and villages is their physical orientation to the Delaware marshlands (Leipsic's waterfront), the way in which they continue to reflect design elements (Port Penn's grid plan), and the scale and types of individual historic resources they contain (Little Creek's fishermen's houses).

**4. Materials.** Materials are the physical components that were combined or deposited during a particular period of time and in a particular pattern or configuration to form an historic resource. Materials for marshland cultural resources should evidence historically documented means of construction and fabrication. Again, the difficulty with the ephemeral nature of marshland cultural resources presents the problem of short-lived physical resources that in their making represent historic continuity of practice. Because practice is a process and not a thing, we are left with the conundrum of how to evaluate integrity of materials in the circumstance of physical resources that are simply not historic in terms of when they are made but are profoundly historic in how they are made. In this sense, integrity of materials issues relate to

integrity of design problems discussed above. In such a case, the resource would present evidence of a folklore practice, but would lack integrity as a historic resource.

For historic resources such as floating cabins or skinning sheds, integrity of materials depends on their relationship to both the period of significance and the appropriate historic themes. The same is true for associative property types such as fishermen's houses, chandleries, and other fast land building types.

**5. Workmanship.** Workmanship is the physical evidence of the crafts of a particular culture or people during any given period in history or prehistory. Integrity of workmanship follows the same split identified for integrity of design and materials. For functional property types on the marshes, integrity of workmanship will likely be reflected in continuity of practice and not in the physical substance of a resource. For property types such as dwellings, workmanship will be reflected in the execution of architectural design and its decorative and functional elaboration.

**6. Feeling.** Feeling is a resource's expression of the aesthetic or historic sense of a particular period of time. Marshland cultural resources exhibit a great propensity for the evocation of place. A gunning blind thatched around with reeds and set on poles in Thousand Acre Marsh, regardless of its period of construction, possesses integrity of feeling. In river villages and towns, however, intrusions in the form of new construction of inappropriate scale, siting, construction, or design can undermine the larger integrity of feeling associated with the whole. Integrity of feeling arises from the visual and historic relationships between the natural environment and its associated cultural and historic resources.

**7. Association.** Association is the direct link between an important historic event or person and an historic resource. Integrity of association has been discussed at some length under Criterion A (above). Integrity of association is identified most often with individuals significant in the history and development of the towns and villages identified in the marshland historic context. In Port Penn, for example, the surviving houses of the Stewarts (the eighteenth-century town founders) and Cleavers (Port Penn's premier nineteenth-century entrepreneurs) represent direct links with historically significant persons. Their association with marshland cultural resources, however, is far less tangible. Integrity of association also depends on how we determine who or what is significant. The houses of Sam Fox (Leipsic's reputed "king of the oystermen") and Carl Morris (Port Penn's legendary waterman) both stand and are associated with individuals intimately identified with life on the marsh and water and significant in the modern history and ethos of their communities.

#### **Step 4: Determination of Eligibility**

Once the appropriate historic themes for marshland cultural resources have been determined, the four National Register of Historic Places criteria for significance are applied to surveyed historic resources related to the themes. The four National Register of Historic Places criteria determine significance in terms of (A) relationship to events or broad patterns in history, (B) association with significant persons, (C)

architectural style, craftsmanship, or design, and (D) the likelihood of yielding additional information. Eligibility for listing in the National Register of Historic Places depends on a historic resource meeting at least one of the four criteria and retaining its physical integrity relative to the historic theme with which it is associated.

The historic themes identified in the marshland cultural resources historic context are presented below in the framework of the Delaware Plan and the National Register criteria. Criteria A and C are the most relevant for this historic context.

**Criterion A: Relationship to events or broad patterns of history.** Significance under this criterion is determined by the resource's association with an event, a broad pattern in history, or historic trends that made an important contribution to the community, state, region, or nation. Almost all marshland cultural resources fall under this criterion, particularly in terms of their local and regional significance. The majority of marshland cultural resources relate to economic activities based on hunting, trapping, fishing, boat building, and other environmentally dependent occupations. Cultural and social trends associated with marshland cultural resources relate primarily to settlement patterns and demographic change particularly in the area of the occupational character of marshland villages and towns.

#### **Economic Trends**

**Trapping & Hunting/Fishing & Oystering.** Fishing, trapping, hunting, and related activities represent a type of extractive economic process where the natural resources of the Delaware marshlands became the objects of commerce. Associated with these activities is the capitalization of the marsh in terms of rented trapping grounds, banked and drained trapping areas, and the construction of skinning sheds and related functional and associative property types.

**Agriculture.** Land reclamation projects, ranging from individual to corporate initiatives to develop arable land and meadows, resulted in permanent changes to the marshscapes of the Delaware coast. The construction of dikes, excavation of drainage ditches, and building of impoundments for cattle grazing are all aspects of this trend.

**Transportation & Communication.** The need to move game, furs, fish, and other forms of marshland produce required the construction and maintenance of transportation property types such as landings, boathouses, railway spurs, wharves, navigational aids, and channels.

#### **Cultural and Social Trends**

**Settlement Patterns & Demographic Change.** The history of marshland communities such as Leipsic, Little Creek, and Port Penn reflect an extended transformation of the social and occupational character. In the late eighteenth century these communities were founded as river ports and envisioned as vital links in regional and trans-Atlantic trading networks. By the late nineteenth century these same communities had assumed the status of small fishing villages which also included elements of agricultural industrial production such as canning locally grown produce. Town plans and first period dwellings in these communities describe early "mercantile" aspirations and character; later houses, outbuildings, chandleries and stores, and waterside structures embody "localized" developments.

**Architecture, Engineering, & Decorative Arts.** Architectural trends in terms of functional property types are generally limited to the design and use of work structures such as skinning sheds, floating cabins, landings, and wharves. Associative property types are more likely to display "significant" architectural elements. Associative property types include fishermen's houses, boarding houses, chandleries and stores, wharves and landings.

**Criterion C: Architectural Significance.** Resources significant for their physical design or construction, including such elements as architecture, landscape architecture, engineering, and art work can be nominated under this criterion. An historic resource eligible for listing under Criterion C must embody distinctive characteristics of a type, period and method of construction, represent the work of a master, possess high artistic value, and represent a significant and distinguishable entity whose components may lack individual distinction.

Marshland cultural resources significant for their architectural qualities generally conform to questions of physical design and construction. Functional property types like floating cabins, for example, represent a specific functional type with particular design characteristics. Similarly, skinning sheds and duck shooting blinds exhibit distinctive use and/or construction qualities. Associative property types such as fishermen's houses are more likely to include architecturally significant decorative features. Dwellings and other durable property types considered under Criterion C must meet the standards for integrity listed below. More ephemeral property types, however, represent different integrity issues.

## **VI. Goals and Priorities for the Marshland Cultural Resources Historic Context and Property Types**

Priorities and goals for the marshland historic context and its related property types must address and relate to the goals and priorities of the Delaware Plan. The plan established priorities for preservation activities related to particular context elements such as geographic zone, historic theme, and chronological period. The Coastal Zone was the top priority among the geographic zones, and the two time periods covered by the context (1830 - 1880+/- and 1880 - 1940+/-) were second and third in priority according to the Delaware Plan. The State Historic Review Board addressed this priority by approving a Historic Preservation Fund subgrant for the development of this context, which represents one facet of the larger context for maritime-related activities in the state.

The Marshland Historic Context relates to the priorities of the Delaware Plan in a second area: the issue of disappearing historic landscapes. The ephemeral nature of many of the resources associated with the Marshland Historic Context, as well as the decline in the economic viability of the marshland market economy, is resulting in the rapid loss of the few marshland resources that still survive. The plan placed a high priority on the identification and documentation of historic landscapes that are disappearing from the state. Clearly the cultural landscape related to the marsh falls within the definition of a disappearing landscape. Unfortunately, attempts to list marshland resources on the National Register of Historic Places may not be viable due to loss of integrity; priorities may be better placed on survey and threatened resource documentation.

The preservation planning process in Delaware is composed of three stages: 1) establishing a planning framework by developing an historic context and identifying property types; 2) recognizing the historic resource base through the identification, evaluation, and registration of eligible resources related to the historic context; and 3) creating preservation goals for treatment of the resources and integration of the planning needs for those resources into other plans. This chapter will address the second and third steps as they apply to the Marshland Historic Context.

Priorities for the identification, evaluation, registration, and treatment of marshland cultural resources are based on several characteristics peculiar to these historic resources. First, the vast majority of functional property types associated with this historic context are ephemeral in nature. Even buildings such as muskrat skinning sheds seldom meet the fifty year requirement for National Register eligibility. Other property types such as trapping grounds and hunting blinds change or disappear in the course of a single year. Associative property types include more durable categories of resources such as fishermen's houses, marshland dikes, and boat landings. As landward resources, associative property types do not adequately reflect or commemorate the historic world of work on the water. Second, historic preservation priorities for Delaware marshland cultural resources must occur in the larger context of environmental

policy. Few historic contexts will be so closely related to natural and cultural ecological resources. Muskrat trapping grounds, for example, are products of both the natural environment and historic usage. Third, the essential relationship between natural and cultural resources demands a more integrated environmental planning process and the establishment of common goals. Thus, historically significant landscape resources may also be equally significant from other environmental perspectives.

### **Priorities and Goals for Identification Activities**

**A comprehensive survey of all resources related to the marshland historic context must be undertaken as soon as possible.** Many of the resources that exist today are rapidly disappearing, particularly those whose original function has become obsolete. The methods that should be used to carry out the priority for identification and evaluation of marshland resources are detailed below. They include two phases--reconnaissance and intensive level survey--each with specific activities to be carried out.

#### **Reconnaissance Survey**

A reconnaissance level survey identifies all resources within a specific geographic area that are more than fifty years old. The survey process, as defined by the National Park Service and the DESHPO, must include photographic documentation and the completion of a cultural resource survey form. There are specific activities that should be undertaken in attempting an accurate survey of all resources related to the Marshland Historic Context.

**A. Archival research** provides a contextual base of historic information drawn from documentary resources. Such information should be compiled with specific attention to the identification of functional and associative property types as well as the historic context in which they were developed, used, and discarded. Archival research must also include the search for private collections of documentary and photographic evidence. The field components of this historic context, for example, identified several private collections. The photographic materials were especially important for two reasons. First, the objects and structures recorded were typically our only means of identifying property types and their use. Second, photographs serve mnemonic purposes by sparking individual memories in the course of gathering oral histories.

**B. Field survey** should be undertaken to identify property types as well as historic resources associated with the marshland cultural resource historic context. Survey of certain associative and functional property types will require the development of new cultural resource survey forms. Most pressing of these forms is the development of a traditional small craft survey form and a recording format for marshland cultural landscapes. Field surveys should be broadened to include an oral history component. Oral histories should record not only the history and processes of marshland work and

culture, but also solicit specific information about associated structures, landscape features, and artifacts.

**C. A Collections Guide** should be developed for artifacts related to marshland cultural resources. Some artifacts, such as traditional small craft like floating cabins or shad skiffs, may be eligible for listing in the National Register. Other categories of objects, such as the tools and furnishings associated with muskrat skinning sheds, contribute to the context, integrity, and significance of the historic resources. In some situations, historic artifacts remain physically associated with their historic resources; in other circumstances, the objects survive only in museum or private collections. Because these objects are often essential to understanding and assessing the historic processes that shaped the marshland environment, every effort must be made to inventory these materials and to evaluate their actual impact on the kinds of resources encompassed by historic preservation planning.

#### **Priorities and Goals for Evaluation Activities**

**An intensive level evaluation survey should be undertaken as soon as possible following the completion of the reconnaissance survey.** A thematically organized intensive survey built around or expanded from the work in the marshland cultural resource historic context should result in a list of historic resources that have been evaluated and determined eligible for listing in the National Register of Historic Places. This process should also result in a list of marshland resources that are threatened by demolition, deterioration, abandonment, neglect, or other factors such as reuse.

A maritime historic context also needs to be developed for southern Delaware. The historic context should include not only the Atlantic coast but also the inland bays and their headwaters in the Cypress Swamp as well as the western drainage of the Nanticoke River. Existing research indicates that a maritime historic context for southern Delaware would share some elements with the historic activities and property types associated with the Delaware River and Bay. Aspects of trapping and wildfowl hunting, for example, seem to show little variation between locales. Other historic activities, however, suggest a very different human ecology and historic context for southern Delaware. Fishing, clamming, salt making, grazing, and lumbering are just a few of the historic activities tied to the southern Delaware maritime and estuarine environment. Because the maritime landscapes of southern Delaware are a distinct cultural and environmental resource and because they are affected by immediate development pressures and changing land use patterns, the development of this historic context and its relationship to current planning and policy debates is of the highest importance.

#### **Priorities and Goals for Registration Activities**

The list of potentially eligible resources compiled during the intensive level survey should result in

the nomination to the National Register of potentially eligible historic resources. Because marshland cultural resources are represented by activities and processes, they typically comprise multiple properties often in scattered locations. The dual problem of non-contiguous resources and the existence of many individual resources representing different functional property types can be resolved best through multiple property National Register of Historic Places nominations. Although this strategy was attempted with the multiple resource nomination Leipsic and Little Creek, it was not entirely successful. The lack of success stemmed from the lack of knowledge about more ephemeral property types, diverse marshland occupational practices, and an overly sharp focus on the Delaware oyster industry. The application of an expanded historic context built on the historic theme of marshland cultural resources contained in this study would yield a dramatically larger and more diverse National Register of Historic Places nomination for the two communities.

Accordingly, **a high priority is the evaluation of existing National Register listings for Leipsic and Little Creek followed by an expanded multiple property nomination that looks to the broader themes identified in the marshland historic context.** Due to the increased conservation activities focused on Delaware's coastal wetlands, the ephemeral quality of many marshland cultural resources, and rapidly increasing development pressures both in the towns and their rural hinterlands, this project should be undertaken as soon as possible.

A similar expanded perspective also should be brought to bear in the evaluation of other marshland historic resources potentially eligible for listing in the National Register of Historic Places. The marshland historic context raises the question of what constitutes an historic resource that is eligible for listing in terms of integrity issues. The strategy for resolving this problem rests in our ability to link existing historic properties to the themes identified in the marshland historic context. Due to the nature of marshland life and work, the ephemeral nature of many marshland historic resources, and identification of landscape and setting as property types, the preparation of historic district or multiple resource National Register of Historic Places nominations should be given priority over individual nominations. In all instances, registration must address the following points:

- 1) proof of the use or association of individual historic resources as they relate to the marshland historic context;
- 2) assessment of integrity relative to the marshland historic context (for example, do the actual historic resources still exist or do their settings reveal their former existence and use?);
- 3) the relationship between historic resources and patterns of use and association with other artifact genres such as tools; and
- 4) landscape and setting as distinctive property types which meet integrity and significance criteria.

National Register of Historic Places activity should also specifically identify and address the

physical movement of historic resources and the physical elements an historic resource must possess to illustrate an historic context. Movement is an historical fact of use associated with many marshland property types. Boats of all sorts, for example, move through the marsh by oar, pole, sail, or engine. Their significance is dependent on historic patterns of work and recreation that were anything but static. Shoreside structures like muskrat skinning sheds and floating cabins shared a similar though less frequent mobility. Movement in the use of water craft and the re-siting of marshland work structures actually contributes to their significance and should be assessed as a positive factor in any National Register evaluation.

The need to clearly establish the linkage between historic resources and marshland historic contexts represents a comparable problem. Many marshland physical and associative property types exhibit no obvious relationship between their architectural character and their historic associations. Both cultural resource survey and National Register efforts, therefore, must include investigations into evidence of use and related artifact categories. Again, the example of muskrat skinning sheds illustrates the point. Typically recycled from old smokehouses, skinning sheds offer little physical evidence in terms of form, construction, or architectural use that identifies them with a marshland historic context. The physical evidence for that association is reflected in use or "wear" patterns and related artifacts associated with the building. Use evidence may consist only of a knife-frayed skinning board tacked to a wall or the pattern of nail holes in the sides of tie beams that indicate where the pelts were hung. Objects may include knives, pliers, work tables, skinning boards, and other artifacts which should always be recorded as they are found and identified in the field. In the case of "nondescript" skinning sheds only wear and smaller artifacts may establish the physical connection of the resource to the historic context.

Issues of ephemeral historic resources, movement, and evidence linking cultural resources to the historic context raise a deeper problem. We need to question the point at which the planning tools, criteria for integrity and significance, and other historic preservation policy tools cease to be effective. Does the very nature of marshland cultural resources suggest that they are more properly the concern of cultural conservation (reflected, for example, in public sector folklore) or historic preservation? Historic preservation planning guidelines lay down specific criteria for the evaluation and registration of historic resources. Marshland property types, however, represent a consistent challenge to many of those same criteria. Historic preservation planners need to address this dilemma in direct terms. Are all the physical and associative marshland property types adequately accommodated and protected by existing historic preservation planning policy? The foregoing marshland historic context suggests that the answer may be "no". If the answer is no, then the need to encourage the cultural conservation of marshland historic resources by other agencies and public programs becomes a pressing priority and the role of preservation planners at the level of state and local government becomes one of interagency advocacy.

### Priorities and Goals for Treatment Activities

Treatment priorities for the historic resources related to the marshland historic context fall into five categories: oral histories, a historic photographic inventory, documentation of threatened resources, a heritage education program, and the integration of listed historic resources into more broad based environmental and land use planning processes such as the ongoing work of the Delaware Division of Natural Resources and Environmental Control.

**A. Oral histories.** One of the largest and clearly the most urgent need is in the area of oral histories. While many historic marshland occupations, such as muskrat trapping and wildfowl gunning, continue into the present, others, like sturgeon fishing and wooden small craft building, have all but disappeared. An oral history project undertaken in 1979 as a component in the Little Creek and Leipsic multiple property National Register of Historic Places nomination yielded a significant volume of substantive research about the organization of marshland life and work. Individual recollections about "trotlining" for crabs or "young ducking" described processes and property types made obsolete by changing techniques or illegal by statute. In the intervening fourteen years many of the individuals interviewed for the earlier project have died. Unlike documentary resources that can be consulted at will, living memory remains at risk through the inevitability of mortality. The pressing need for an oral history project is brought into sharp focus when we recognize that a 20-year-old waterman in 1930 is an 83-year-old senior citizen in 1993. Without exaggeration, we are at the very end of our opportunity to preserve the memory of pre-World War II marshland work, life, and material culture. With the loss of memory we will, without question, lose our best insight into the historic property types associated with the marshland historic context.

**B. Historic photograph inventory.** Related to the needs associated with oral histories is the need for a comprehensive photographic inventory. Photographs (and other forms of visual evidence) survive in two broadly defined types of collections. Many historic images are located in library and archive collections such as the Delaware State Archives or the Historical Society of Delaware. Open to the public, these repositories represent an easily accessible research resource. Far more problematic, however, are private collections. Fieldwork for the marshland cultural resources historic context revealed that the strongest, most extensive, and most informative photograph collections were those held by individuals, usually in the form of family albums or loose images. The photographs contained in the latter collections are typically informal compositions celebrating large catches or capturing individuals in domestic and working contexts. A photograph of muskrat trapper Ike Cleaver taken in the mid-twentieth century illustrates this point. The image shows Cleaver standing in full trapping dress, including game coat and waders, and draped with freshly retrieved muskrat carcasses. Additional muskrats hang from a twine line attached to a timber windmill support. Behind Ike Cleaver stands a small wood-sided, gable-roof building.

This structure, recorded for the Historic American Buildings Survey by Gabrielle Lanier, is Ike Cleaver's muskrat skinning shed. The details in the photograph about occupational dress and trapping equipment, the exterior use of the building, and the trapper's success deepen our knowledge and interpretation of the building. Even as these photographic details inform our sense of historic context, a visit to the site reveals no trace of their physical past. Without this sort of information we are left with the preservation of historic resources without an informed sense of their local significance in the seasonal cycle of marshland work.

**B. Involvement of women and ethnic groups.** The Marshland Historic Context revealed references to the presence of women and African Americans in various marshland activities, as discussed in Chapter 5, Standards for Evaluation. A priority should be placed on the field identification and preservation of physical and associative property types associated with women and ethnic groups as they relate to the marshland historic context.

**C. Delaware Threatened Buildings Survey.** Starting with the list of threatened marshland resources generated by the intensive survey, the threats to those resources should be evaluated within the framework established by the Delaware Threatened Buildings Survey. Depending on the nature and immediacy of threat, the historic resources under consideration should be recorded to the appropriate level determined by the Delaware State Historic Preservation Office. All such documentation should be completed in accordance with the guidelines of the Delaware Threatened Buildings Survey.

Threatened resource documentation in Delaware has focused exclusively on buildings and structures or on selected archaeological sites. The nature of the property types and historic resources associated with the marshland cultural resources historic context suggest a broader endeavor. Because much of the information about Delaware's marshlands, their use, and the people who lived and worked there is contained in the fragile vessel of human memory, we recommend that the mandate for threatened resource documentation be expanded to include an oral history component. The development of oral histories as the subject for threatened resource documentation will require advance planning which must identify how and from whom such histories are to be collected, appropriate formats and processing procedures, and storage and access issues. The Delaware State Historic Preservation Officer should consider appointing a committee to investigate an oral history component for threatened resource documentation. The committee might consist of representatives from the Delaware State Archives, Historical Society of Delaware, Delaware Agricultural Museum, Delaware Division of Natural Resources and Environmental Control, and the University of Delaware.

**D. Historic Preservation Education.** As demonstrated in this context, much of the material and architecture associated with the Delaware River and marshes has disappeared; that which remains is very fragile. In order to increase public awareness of the vast resources that once existed and to improve

the chances of preserving additional materials, a heritage education program focusing on marshland historic resources should be developed. This program may be geared toward primary or secondary classes in public and/or private schools, or toward a wider audience in the form of public workshops.

The marshland heritage education program should make use of historic maps, photographs, and material objects related to fishing, trapping, and salt haying. It should integrate a history of the area with the natural and built environment of the river and marsh to illustrate the interdependent relationship between the two (natural and physical). Port Penn would be an excellent area in which to develop this type of program. The Port Penn Area Museum and planned Heritage Greenway Trail with muskrat skinning shed and floating fisherman's cabin provide a view of the marsh, historic resources associated with the marsh, and tools used in fishing, trapping, turtling and other maritime related activities. The walking tour of the town developed for the Department of Natural Resources and Environmental Control by the Center for Historic Architecture and Engineering would also provide information on the architectural resources of a river town. These materials in combination with a written or oral presentation on the Delaware River for the time period of the context would constitute an informative educational program.

The goal of such a program is not only to increase awareness about marshland historic resources, but also to foster a positive attitude toward preservation. By developing public awareness, individuals with knowledge of their surroundings will be more likely to take care of them and take an active role in their preservation.

**E. Formulating an Integrated Environmental Planning Process.** The history of Delaware's marshes is one of sustained use and development. The earliest period of marshland use covered in this historic context was characterized by ambitious land reclamation efforts that converted thousands of acres of estuarine wetlands into meadows, farms, and building lots. Development of this sort represents an economic process of conversion: the manmade transformation of the natural world to an economically productive environment. Subsequent changes in the economic and social uses of the Delaware marshes also exhibit the character of development. The extensive market fishery that dredged millions of oysters, netted millions of shad and sturgeon, and slaughtered millions of wildfowl represented a pattern of extractive development where the vital wetlands were "stripped" and "mined" of their resources. This second developmental process is extractive: harvesting natural resources for market. Another developmental phase witnessed the intensification of urban and industrial uses along the Delaware shoreline. The resulting dredging, filling, and pollution transfigured the native marshes in ways that continue to dominate both the landscape and the consciousness of the Delaware estuary. In this phase the marshlands were viewed as more of a liability than a productive resource: a process we might term developmental deterioration. The current landscape of the Delaware marshlands is undergoing yet another transformation. The dramatic rise in rural suburbanization and recreational use coupled with more intensive government protection and regulation has produced a tension between a well-documented and

ongoing history of development and a rising public and private commitment to environmental protection. Clearly the history of Delaware's marshlands is a story of developmental interests and economic exploitation and conflict.

The Marshland Historic Context recognizes that the historical development of the Delaware estuary is unending. The principal change in the present is the introduction of potentially powerful new regulatory policy and equally passionate economic desires to convert the estuarine landscape for profit. The challenge for historic preservation and cultural conservation interests alike is to join forces with other interests that seek to preserve and use Delaware's historic marshland resources. Historic preservation planning must seize the initiative to pool its regulatory powers with those of other local, state, and federal agencies in an effort to forge a broad-based "new environmentalism."

Current threats to maritime and marshland historic resources are concentrated in the form of two general categories of development. First, commercial efforts by private and corporate interests, particularly in the area of residential and recreational development, represent the one obvious threat to these fragile historic environments. Meetings held by the Inland Bays Council and the Delaware Greenways Council indicate that continued development in the historic marshland areas of the state will cause irreparable damage to physical and cultural resources. Public and private action must occur in order to mitigate the current patterns of commercial development. But the environmental protection of Delaware's historic marshland presents its own liabilities. Almost all effective marshland environmental protection policy functions with little or no regard for historic and cultural resources. For years environmentalists have targeted a "natural" environment for protection without considering its historic and cultural qualities. As this historic context has shown, there is no such thing as a "natural" marshland environment in Delaware. The estuarine landscape is what it is due to over three centuries of historic settlement and countless centuries of prehistoric use. Thus, environmental policy that privileges natural resources represents a subtle second level of threat to Delaware's marshlands as a cultural landscape.

There are promising indications that a more holistic and functionally integrated environmental policy may be on the rise. First, the Delaware Contractor's Association and the Department of Natural Resources and Environmental Control have published the *Environmental Compliance Reference Guide* in an effort to provide developers with a comprehensive listing of laws that apply to their work. The document was not intended as a guide to cultural resources, but its concept and format suggest that a similar guide to dealing with cultural and historical issues would be helpful to developers. Such a document would also expand upon the idea of marshlands as a natural resource and embrace their character as a cultural resource.

Second, efforts by the Delaware Greenways Council and specifically the Coastal Heritage Greenway Council have focused on increasing the availability of natural and cultural resources to the public. Most recently, work has been conducted at Port Penn to open a trail through the marsh. By

making trails available for biking and hiking and encouraging such activities, the Council is in effect educating the public on its surroundings and resources. The work of the Delaware Department of Natural Resources and Environmental Control in and around Port Penn represents the type of well-rounded programs that will have the greatest positive impact on the protection and interpretation of marshland historic resources. Educational programs based in the Port Penn Interpretive Center provide a tripartite educational focus. The Port Penn interpretive trail combines natural history with settlement history and increased awareness about the fragile balance at stake in marshland ecology. The walking tour through the historic village of Port Penn begins with the settlement history of the area and expands to discuss the historic evolution of the town in its marshland historic context. These are new and innovative programs that define a common ground of environmental concern where natural and cultural landscapes are seen as inextricably intertwined and the object of a new environmentalism. The challenge for the future rests in our abilities to continue the search for common ground, to forge environmental alliances, and to preserve and celebrate a complex cultural and natural ecology.

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**APPENDIX A:**  
**FLOATING CABINS ON THE DELAWARE RIVER**

**by**  
**Natalie Peters**

## Preface

When I first started this research project, two things made a memorable impact on me. The first was the beauty of the environment in which the cabins were located. Because of its large cities, New Jersey has earned a reputation as a highly-urbanized, polluted state dominated by its major highways. I spent many months working in a part of New Jersey that bears no similarity to this description. The Delaware River wetlands --on both the Jersey side and the Delaware state side-- are filled with a multitude of wildlife that seems to have remained unspoiled through time, even by the nearby nuclear plant at Artificial Island. One learns from the local watermen that this is not the case, however. They remember a time when the huge, silver bodies of decades-old sturgeon could be seen leaping in the river like members of a leftover, prehistoric species. They recall when muskrat houses were abundantly scattered through now-absent cattails. But, even though the sturgeon and cattails have all but vanished, the land still has a natural beauty reminiscent of its former self. On the sandy river bank at Elsinboro, New Jersey, the Delaware River at high-tide rises to meet the door of a floating cabin docked there. A local flock of mallard ducks would often swim by here and curiously peek in on me while I was working. Over the months of my fieldwork, we came to know each other and to stop being surprised to see each other. At another location, muskrats scurry through the phragmites beneath a rickety wooden dock leading out into the marsh to a deteriorating cabin. I was the target of some good-natured ribbing when the presence of the 'rats made me reluctant to step on the apparently unstable dock. Later, I was invited to a local muskrat feast where I discovered how delicious these little guys are, and I learned to look at them very differently.

The second pleasant surprise I encountered at the beginning of my project was the openness of the people I set out to interview. Men who were anywhere from sixty-five to over ninety-years-old were understandably surprised to encounter a young female who wanted to discuss this faded male-dominated tradition with them. But most of them easily set aside their misgivings and spoke to me freely. The relationship formed between these men seventy years ago on the river was still evident when the reluctant ones gave in to pressure from their friends to "give the little girl her talk." To all of these men, and the list would be too long to mention, I am grateful. I also feel privileged to have heard their stories and to have seen their pictures and to have shared a little piece of their lives.

Since this project is the first time floating cabins have been documented<sup>1</sup>, it was expected that a

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<sup>1</sup> In 1992 Bruce Stutz's book *Natural Lives, Modern Times* was published. Although Mr. Stutz does not specifically address the existence of the floating cabins, many of his informants mention them casually. This is not surprising since Mr. Stutz and I, unbeknownst to me, were out interviewing the same people, on both sides of the river! People have stories that they like to tell and Mr. Stutz and I collected many of the same ones. I have made an effort not to duplicate the quotes contained in Mr. Stutz's very well written account of life in the Delaware River estuary.

The only other time floating cabins get mentioned in print are in minor captions on historic photographs included in photo-collections such as *How Dear to My Heart* and *Salem County: A Story of People*. However, the

lot of work would be involved. This work-load would have been unmanageable for one person without the assistance of some very helpful people.

Jim Waddington, of Salem, New Jersey, was terrific not only in locating forgotten cabins but also in getting permission from the owners to look through the cabins and document them. Because of Jim, a good deal of Salem County's material culture and architectural history will be preserved for the benefit of future generations. Jim's dedication to his community's history is admirable and, fortunately, not entirely unknown.

Walter Hutchinson donated his grandfather's floating cabin --a charming example of the tradition that had been dutifully cared for by his family-- to the Lower Alloway's Creek Township Historical Society so that others could learn, in his words, "from where they came." He also deserves thanks for his generosity.

Eddie Warren, of Warren Moving and Storage, donated valuable time with his crew and equipment for the burdensome task of moving cabins, once just so that a team from the university --under the expert guidance of Dr. David Ames-- would have a more attractive background for their photographs. Eddie also has a family connection to the floating cabins and because of that was glad to see them getting notice. He, too, should get notice for his thoughtfulness.

Clem Sutton, of Greenwich, New Jersey, not only gave hours of his time in interviews and consultation for reconstructing a couple of the remaining cabins, he also generously shared his private collection of historic photographs, many of which are reproduced in the paper. His collection is, by far, the best found and was greatly appreciated.

Bob Beck, of Port Penn, Delaware, was very helpful in placing the cabins in the greater context of the Delaware River history. As always, Bob Beck needed no more excuse to assist than his love of the water and his naturally giving disposition.

Special thanks also goes to Dr. Jim Curtis who kindly agreed to serve as my third reader.

A student can consider herself (or himself) lucky to have been inspired by one professor during an academic career and I consider myself fortunate beyond measure for the many who have inspired me. But mostly I attribute my academic accomplishments to two gentlemen, Dr. Bernie Herman and Dr. Robert Bethke. The many hours that each of them have spent editing this project is only the beginning of the contribution that they have made to it and to me.

I thank Dr. Bernie Herman for originally giving me this project and for having confidence in me that I could do it justice. From him I learned to read structures as text and to understand what I was reading. The advice and guidance he has given me over the last few years is a valuable asset that permitted me to complete this project and to grow individually.

Dr. Robert Bethke introduced me to folklore, and to him I will always be indebted. Without his  

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captions only mention the existence of the cabins and do not explain their function or relevance.

training in fieldwork and research, I would never have had the confidence or capability to collect the many hours of oral history I needed to tell this story. Bob taught me to appreciate the hidden treasures of the landscape and, most significantly, he showed me that the landscape was even out there.

#### **Abstract**

"Floating cabins"--one-room waterman's houses mounted on shallow draught hulls--were once a prevalent maritime tradition in the southwestern New Jersey and Delaware River areas. Today this tradition is represented by only two or three craft that still have a high degree of readable integrity. Floating cabins were used as seasonal working residences by local fishermen until the early part of the twentieth century. This paper examines these craft and their social context, as well as efforts made to preserve the remnants of the tradition.

## Introduction

Behind many of the farm houses in Salem County, New Jersey, are deteriorating, shed-like buildings that go practically unnoticed in this rural landscape. Closer examination reveals that many of these structures are in fact quite worthy of note. They are the almost forgotten remains of what was once the mode of livelihood for many commercial shad fishermen along the Delaware River.

These fading structures are the landed remnants of what have been called *floating cabins*, *cabin scows*, *cabin boats*, *fisherman's houses*, *house boats*, *shad boat-houses*, and *river-cabins* by the people of this wetlands area. (Because most of my informants used the term *floating cabin*, this is the one that I have adopted for my project.)

A floating cabin is a one or two-room watermen's house built on a shallow-draught hull. At one time, many were anchored in the marshes and tidal meadows of the Delaware River wetlands in the southern parts of New Jersey and Delaware. A basic one-room plan (with a single two-room exception) is shared by all of the examples still standing today. Oral history confirms the frequency of the two-room plan type, however. The convention for either type of unit is rectangular in shape, usually with a door or window at each end. Typically, the front is more finished; in the case of one of the cabins originally from Hancock's Bridge, New Jersey, there is a small landing for easier entrance and exit only at the front of the cabin. The windows are approximately two feet square and slide horizontally in a side sash. This distinctive attribute has helped to identify structures as possibly being floating cabins when other more definitive characteristics, such as a hull, are no longer present.

The floating cabins are modest in appearance and design, rarely evidencing any superfluous decorative trim or adornment. Equipped with two, but sometimes four, bunks and a wood or oil stove the cabin met the simple needs of the men who lived in them. The cabins housed two to four men who ran one skiff for every two men. Some of the cabins had built in tables that could be folded out of the way when not in use. Small cabinets were also often affixed to one of the inside wall. These cabinets were approximately thirty inches wide and half that deep. They conformed to both the interior configuration of the cabin and the cabin building materials so they appeared to have been built at the same time as the cabin. In one cabin a medicine cabinet was also discovered that still included glass-stoppered jars of medicine.

Unlike typical houseboats of modern times<sup>2</sup>, floating cabins had no engine or other means of self-

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<sup>2</sup> In an article entitled "Houseboat Distribution and Morphology in the Atchafalaya Floodway, Southern Louisiana" the author, Alan Craig, classifies houseboats into five types. Some of these are comparable to floating cabins only in the most general sense. For instance, he describes structures that he calls "contemporary

## Appendix A: Floating Cabins

propulsion. On all four corners of the scow-like hull of the floating cabins are metal rings that are approximately three inches in diameter. When it was necessary to move the cabin from one location to another, a rope was drawn through the front two rings and affixed to the back of a craft that would then tow the cabin to its new location. The rings were also used to stake the cabins in place during the fishing season. Since the Delaware River has a six-foot tide<sup>3</sup>, it was necessary for the cabins to be moored in such a way that they could rise and fall easily with the water. This seems to have been accomplished by driving long poles into the river bottom through either the rings themselves or rope loops, attached to the rings, that would have allowed for easier movement with the tide<sup>4</sup>.

### The Community

Until the early 1920s when pollution in the Delaware River drove most of the local fishermen out of business, the continued survival of the fishery depended on watermen's being able to spend every possible moment fishing the river during the limited fishing season. The placement of the floating cabins,

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houseboats" that "are manufactured to such high standards that all conveniences of urban living are to be found on board." (Craig, p.16) These craft also utilize metal in their construction, unlike the all wooden floating cabins. However, Craig does describe houseboats that are far more like floating cabins than they are the contemporary houseboats. His description of a "traditional houseboat" is as follows:

From a topological point of view, a houseboat *sensu strictu* should consist of a clearly defined house structure of distinctive type added to an unmistakable boat hull....In the traditional houseboat design, the house structure is built to conform to a particular boat hull, rather than vice versa. (Craig, pp. 16-17)

It is difficult to determine, when examining Delaware River floating cabins, whether the hull was built to fit the cabin or the cabin to fit the hull because the two parts are so compatible. However, it must be acknowledged that the floating cabins do have "a clearly defined house structure...added to an unmistakable boat hull." Therefore, the floating cabins would fit into Craig's very general definition of a "traditional houseboat."

<sup>3</sup> The Delaware River has a semi-diurnal type of tide that varies from three to six feet. The flood tides are stronger on the Jersey side and the ebb tides are stronger on the Delaware side. (Bob Beck)

<sup>4</sup> A craft that bears mention as a possible "cousin" to the Delaware River floating cabin is pictured in Donald Rolf's book *Under Sail: The Dredgeboats of the Delaware Bay*. Oysterman Nathan Gandy is shown standing, in the community of Bivalve, next to what is identified as "his shanty." The craft pictured is cabin-like in appearance and shares the same shallow draught hull as the floating cabins. Gandy's craft appears to be much rougher in design and construction than the cabins examined, though. Furthermore, it appears to be smaller than what have been classified as floating cabins. However, it does have the same metal lashing rings, placed similarly, that were perhaps used for the same purpose. Since this photograph was taken in 1904, a time when floating cabins were still in use, it is apparent that these two craft types were contemporary as well as possibly homologous.

Also, in other similar river coastal fishing regions in North America, intriguing parallels for the floating cabins exist, for example, in the water communities from the Mississippi River watershed eastward. In *American Small Sailing Craft*, Howard Chapelle writes about a kind of scow used in coastal Texas called a "Port Isabel Scow Sloop." He describes one aspect of these scow sloops that sounds like a feature of the floating cabin:

As the boats did not have accommodations for the fishing gang, some boats (scows) were fitted with a removable trunk cabin forward and were used as camp-boats, to take care of the additional men. When built as camp-boats, the scow sloops were often beamier than when intended primarily as fishing boats. (Chapelle, p.334)

Chapelle seems to be suggesting that the "camp-boats" were a craft designed primarily as a floating working-residence, like the floating cabins, and, as such, their construction differed from the "fishing" version of the Port Isabel Scow Sloop. The floating cabins also share a scow-like shallow-draught hull with this craft type.

## Appendix A: Floating Cabins

in near-by creeks, enabled the men to avoid time-consuming daily commuting from their land residences to the river in the low-powered or man-powered fishing skiffs they employed in their trade. From this location it was possible to net shad and other ocean dwelling fish as they return to their natural freshwater streams to spawn. Anadromous species, species of fish that move from salt water oceans to fresh water streams or rivers for breeding, such as shad and sturgeon, were the primary product of the floating cabin communities. Floating cabins, because of the additional time they allowed the watermen to spend on the river, were a necessary part of the Delaware River fishing industry.

"They used these cabins to live in during the fishing season," says Clem Sutton, an eighty-five-year-old life-long waterman and master boat-builder who has spent most of his life working on the south Jersey shore. "They would take them down to the mouth of the streams and put them up on the bank on high water and then they would work from those cabins." Hartly Hymer, another native New Jersey waterman in his eighties, noted that the cabins were secured along the bank by first scooping out a section on the bank to conform to the squared flat-bottomed shape of the back of the cabin, since the front entrance to the cabin would then be accessible from the water-side by using a shad skiff or other small fishing boat. This adaptation of the river bank was called a "scow dive," referring to the scow-like hull of the floating cabin. The cabins were staked along what was called the "guard," according to Charlie Weiser, an area on the outside bank of the creek that was owned by the government. No rent was charged for staking cabins here, unlike the inside banks that were owned by farmers. Mr. Weiser speculates that if rent had been required, not as many people would have been able to afford to use cabins.

When they were exclusively working craft, floating cabins were a place for the men to rest, cook and eat after a hard day on the river. The cabins also provided a place for the exchange of comradeship and stories. This was a time to share the pleasures and the stresses of an occupation that many of these men were born to. "After being on the river for [a length of time] you didn't even have to talk, and they [the other fishermen] knew what you meant. You could talk if you wanted, but you didn't have to," one waterman's son disclosed.

The cabins were staked in groups at the mouths of the creeks that feed the Delaware River, sometimes as many as a hundred or more in each creek, creating "floating communities" in which the men lived seasonally. "Rows of cabins, side by side, as far as the eye could see," Clem Sutton recalls from his childhood. "And every stream [along the Delaware River] had them." The large number of cabins staked in one specific creek, reported by many of the local venerable watermen, lent to it the name "Cabin Creek." However, Bill Waddington, another long-time Salem County resident and waterman, suggests that at one time any one of a dozen or more of the different creeks that feed the Delaware River could have informally

## Appendix A: Floating Cabins

been called "Cabin Creek" because each held numbers of cabins earning them this nickname. On today's maps of the Delaware River estuary there are no waterways that have retained the designation Cabin Creek.

Watermen who lived in the cabins would help each other out in these floating communities, so says Lew Fogg, a long-time New Jersey waterman who has now retired and lives in a retirement community with many other older watermen. "They'd help each other when they could, with nets and things," he asserts, "but there were still secrets, you know, that they wouldn't share." These secrets might have included specific netting techniques or other bits of information available only to the men who had spent long hard years learning the tricks and habits of the river firsthand, while "courting" the river, as one waterman described the oscillating relationship he had once shared with the, sometimes unpredictable, Delaware River.

### **Protocol**

Isolated from land as watermen often were for weeks at a time, it was the community "laws" or protocol that they would obey first and foremost. "Help your friend this time and he'll help you the next," Mr. Fogg explains. This could be a critical consideration if one were to find himself dependent on his water neighbors in times of trouble or need. Except for certain trade secrets, all else was shared among the cabin communities. Food, alcohol, tools and advice were exchanged freely among the men who understood the value of being on good terms with one's neighbors. The close proximity of the cabins to one another also gave both added security during inclement weather and difficult times, as well as a feeling of social control throughout the season. "Whatever you did, they'd all know it. So, you know, you'd watch yourself okay," Mr. Fogg confides. This meant that a man would not fish in a place that "belonged" to another, an understanding that had no legal force but rather a much more important social restriction. Social protocol prevented a fisherman from taking more fish than he and his crew could process and leaving the fish to die and to be wasted, before pick-up from the lay-boat --a larger craft that picked up the catch from the floating cabins and transported it to ports such as Philadelphia. Even during the abundant times, waste was not to be tolerated.

A little bending of the land-laws was permitted by the floating-community protocol. Often, for instance, the men would catch diamond back terrapins, either off-season or in violation of New Jersey state size regulations, and store them live in the open space between the floor of the cabin and the hull until such time as they could be sold legally on the Delaware side of the river. The space under the floor was accessible only by removing the interior front step of the cabin. One waterman tells of a time when Burt Fithian, a well known local cabin owner and fisherman who is now deceased, was sitting in his cabin with a number of his fellow fishermen when the men heard a slight scratching beneath the floor boards.

## Appendix A: Floating Cabins

"Well, well," Fithian is reported to have exclaimed, "I got me some more of them cabin rats." The other cabin owners "lamented" that they, too, had picked up a number of cabin rats. It was agreed among them that it had been a "bad" season for "cabin rats." The secret cavity used to store the turtles also lent itself to the storage of other "goods" that were best kept out of sight, such as liquor during the Prohibition years. Also, liquor could be hidden there when wives might drop in to check on their men. "Can't let them [the wives] think we were having any fun out there, you know," one waterman confided.

### **The Men**

The cabins were generally owned by one fisherman who employed one or more other men -- depending on the size of his cabin-- who would reside with the owner in the cabin during the fishing seasons. Peter J. Guthorn makes an interesting reference in his book *The Sea Bright Skiff and Other Jersey Shore Boats* as to who these men may have been. He writes: "Other shore fisherman migrated for a month's shad fishing to the larger or smaller rivers of New Jersey, Delaware, Maryland, or Virginia." (Guthorn p.34) Guthorn doesn't specifically say that these men were employed aboard floating cabins, but it is likely that this would have been the type of employment awaiting them in the region he describes. Some of the cabins, like one built by Charlie Weiser's father before the 1920's, had extra bunks that might have been rented out to fishermen who did not own their own cabins. Mr. Weiser recalls that his father allowed two men to work from his cabin --while he and his assistant also worked-- and he presumes that his father was compensated by the men. The fish were plentiful when these men joined the Delaware River floating communities for seasonal work and it paid to help your neighbor.

Competition among the shad fishermen is now remembered to have existed good-naturedly. The men tell of abundant times when there was enough fish to support everyone's needs. The local folks who survive today report that they did not resent "outsiders" fishing their river. Instead, these gender-specific communities were made up of men who would bond together for a common enterprise: survival in the only profession that they knew. Floating cabins were occupied by men, local folk or those who came from other coastal communities, whose families spent generation after generation deriving their living from the river and the surrounding wetlands. The community also transcended state lines, according to Bob Beck, curator of The Port Penn (Delaware) Museum and a life-long waterman. He says that "the only division was between the resident fishermen and the law enforcement. The fishermen from Delaware and Jersey all fished side-by-side together." When the fishing season ended, the watermen would continue to work together to make a living from the wetlands by hunting waterfowl and trapping muskrats and other marsh game, often using their floating cabins as bases of operation. Carl Morris, a Delaware waterman who is now deceased, described his yearly activities this way:

I'd trap the first of December till the tenth of March - on the inside marsh until the twentieth. Soon as this was done you started rock fishing or net fishing on through April;

## Appendix A: Floating Cabins

then when the shad hit you shad fished; then when the shad were done you went down the Delaware Bay crabbing. We also used to sell eel through the Fall... We used to go to Mahon's [Port Mahon] and, well, as the water got cool about the middle of September, in a cabin-boat...and fish the creeks and ditches and bring them eels back alive and sell them to the buyers from New York...that was our Christmas money. (Herman, p.2)

Times were good for the men when fish and wildlife were plentiful and markets stable.

### The Family

Oral history suggests that families were sometimes a part of these floating communities. Edna Dukes, a life-long resident of lower Delaware, remembers going out with her father by boat to where the cabins were staked to sell the cabin-residents fresh vegetables and chickens from their farm. When asked if she ever saw women living in the cabins, Mrs. Duke's reply was prompt and mildly indignant.

Of course there was women there. My father wouldn't have let me go, my being a young girl if that wasn't the way it was. I don't know what they were doing there, but they were there for certain. I remember once, we took a chicken out, and I guess it was still a live one because I remember it fell in the water and was flapping around there in the water. I remember there was a woman there that time because she was making quite a fuss about [the chicken in the water].

Nearly seventy years after the structures began to fall into disuse, it was still possible to piece together some parts the story of the people who lived and worked within these approximately nine by sixteen foot floating houses. The story came from men and women like Edna Dukes, now mostly in their eighties, who were hardly more than children when their fathers and grandfathers derived their living from the many different fish of the yet unpolluted Delaware River. As it is with many working families, these children often served as extra hands aboard their father's craft when the seasonal demand was high. One waterman reported, "I only went to school when it was convenient for the fish." Which often it wasn't. For this man, working the river became a part of life when he was very young.

I hardly remember a time when I didn't have to work. But, 'cause I didn't know otherwise, I didn't mind. I just did what I had to. But I remember worrying, even then...worrying about whether we were going to get enough [fish] to...pay the bills. I remember my Dad was worried, too. But we usually did okay.

His experience parallels many of the children of cabin owners, but not all of them. Charlie Weiser, a life-long resident of southern New Jersey and the son and grandson of cabin owners, reported a very different childhood. He says that his father never had to have him work --his father employed a man full time to assist him-- but there were special times when Mr. Weiser would be let out of school to go to the cabin. "Was a pleasure to be let off of school," Mr. Weiser recalls. He remembers one time:

In the worst winter we ever had. They're still talking about it now. We [his father and he] walked down from Salem [New Jersey] to where the cabin was staked. That was about four or five miles. It was so cold that the muskrats would get froze out when they left their

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houses. It was just Dad, the dog and I and we got a wash-bucket full [of muskrats] by the time we got to the cabin. They weren't too hard to catch, you just knocked them on the head.

Mr. Weiser's memories are of recreational times spent at his father's cabin, often with his mother and his sister. Rather than being contradictory, these two experiences demonstrate that, like many occupations, some men working the river were able to make a good living that afforded them recreational time with their families, and others needed their families to work with them to survive. Many factors may have contributed to this circumstance, not the least of which was the capability of the individual waterman. However, it has been suggested that the water removed the socio-economic barriers between these men. Indeed, no evidence of a social disparity, or hierarchy, between cabin owners has been reported. The floating communities are now remembered as a place where like-minded men spent work and leisure time in accord.

### A Changing Time

The turn of the century evidenced the end of these lucrative times. The Delaware River had become polluted almost to the point of being unable to sustain marine life<sup>5</sup>. Once called the "Queen of the Delaware Estuary" the American shad had become nearly extinct by the 1920s. "Pollution, habitat loss, and overfishing destroyed the [shad] fishery in the early part of the century, with only a slight rebound in the 1940's" (Bryant, p. 72). "The 1920's was the end of the good times because the Delaware River got so polluted." So says Oliver Ayers, an eighty-two year old waterman from Salem County, New Jersey. "There were practically no fish to catch. I've seen a man put in his net [during the 1920s] and come out with not one fish. Not a one." Since the floating cabin communities were dependent on the annual shad run, they, too, disappeared at this time.

A 1929 copy of the "City Messenger," a newsletter printed by The City National Bank and Trust Company of Salem as an advertising promotion<sup>6</sup>, confirms the disappearance of shad from the Delaware River.

In days now gone the Delaware River and bay fairly teemed with shad, and epicures everywhere pronounced a "Delaware Shad" the peer of them all. This deserved reputation for flavor and toothsome-ness continues, but the shad themselves are not as

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<sup>5</sup> According to Bob Beck, the Delaware River underwent two declines in shad population. The first occurred sometime in the mid-1800's when average annual catches went from 130,000 in 1825 to fewer than 25,000 fish in 1873. The decline at this time was attributed to gill-net fishery, mortality of young shad in eel traps and the construction of a dam at Lackawaxen, Pennsylvania. The second decline, the one that proved to be ruinous for the floating cabin communities, occurred in the early 1900's. This decline was attributed to "pollution block, reservoir releases, dredging, dam construction, thermal effluents entrainment and impingement." (Robert Beck, "The American Shad Fishery in the Delaware River Basin")

<sup>6</sup>This newsletter is in the collection of the Lower Alloways Creek Township Historical Society, in LAC Township, New Jersey.

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plentiful as they once were.

Back in the nineties and earlier, the river was so full of fish that as many as 63,637 shad were taken to market on a single day, and the catch for a one fishing boat was as high as 1200.

Now, due to the greater pollution of the waters and to a variety of other causes, the catch has fallen off materially, and the price [per fish] has risen accordingly.

The figures showing the total catch last season [1928] are not available, but an idea of the falling off in the industry can be gained from the shipments made by a leading shipper who handled 15,930 shad for the whole season.

The newsletter provides us with a look at the shad industry in decline and the time when the floating cabins lost much of their usefulness. By today's standards 15,930 shad for a season may seem abundant, but it is important to compare that take with the 63,637 per day previously accomplished. The hundreds of fishermen on the Delaware River could no longer catch enough fish to support themselves or their families. If there was not a living to be made on the river, men whose families had relied upon fishing for many generations needed to find new avenues of income to feed their families. Floating cabins were sold, when possible, or deserted along the creek banks. Many found their way inland where their hulls were removed and they became out-buildings or storage sheds on the rural landscape. Some of these structures are still being used as such today.

In the collection of the Lower Alloways Creek Historical Society is a newspaper clipping that refers to the passing of shad fishing as a way of life. The article is dated "Wednesday, March 1st, 1922." It shows a photo of four shad fishermen, as well as three other photographs of water scenes. One of the latter is of floating cabins staked in a creek. The caption to this picture reads: "fleet of floating fishing cabins in Hope Creek. The fishermen lived in the cabins during the season. Fishing skiffs are shown tied to the platforms." Use of the past tense to describe the utilization of the cabins as early as 1922 is a significant indication of when this tradition ended in this region.

### **Preservation**

Delaware River floating cabin communities have long since disappeared. And the structures, too, have mostly vanished. As of 1992, I have identified fewer than a dozen Delaware River floating cabins with a high degree of readable architectural integrity. Eight of the cabins are exclusively used today for recreation, and only one still remains water-sound. All but two are located in and around Salem County, New Jersey. One survives in Mauricetown, New Jersey, and another at the Port Penn (Delaware) Interpretive Center. Other recorded cabins have been altered so profoundly that it is difficult to obtain any useful information from them at all, or even to tell definitively that they were indeed once floating cabins. Fortunately, efforts to preserve the memory of this maritime tradition are being made. In the spring of

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1991, four of the floating cabins that still exist with high degrees of structural integrity were documented through scaled architectural drawings, as part of the Historic American Building Survey. Since the fall of 1990, many hours of oral history also have been collected about the floating cabins and their related traditions. Yet it is unfortunate that this documentation did not begin decades ago when more of the men and women who abided with the river traditions were still living, and more of the structures themselves graced the landscape. Chapelle writes about vanishing types of sailboats:

In any case, types [of small sailing crafts] once numerous are now represented by a few rotting and abandoned hulks, by dusty half-models lying forgotten in a boatshop loft, or by a few sketches in a sailmaker's plan book. Some types, indeed, have left no record behind them other than a few casual references in newspapers and correspondence that show only that they once existed. (Chapelle p.3)

It is unfortunate that, until recent preservation efforts began, this could also be said of floating cabins. What was once a wide-spread tradition throughout the New Jersey and Delaware shore areas has become a vague image from the distant past. Many of these once functional little buildings, that perhaps could have been salvaged or documented, are now quietly rotting and disintegrating beyond retrieval.

The introduction to *Working the Water*, a book centered on "collecting, preserving and interpretation on the commercial fishing industries of the Patuxent River", described a similar concern this way:

We were concerned that the region's culture was changing as tranquil tidewater communities catering to the needs of watermen transformed into bedroom communities for the nearby cities. In short, we were concerned that the river's rich maritime heritage was being diluted and lost. (op.ed. xv)

This concern is a very real one that is also applicable to the maritime cultural heritage belonging to the Delaware River estuary for these reasons stated, and additionally because of the close proximity of this community to the Artificial Island Nuclear Generating Station, located on a man-made peninsula on the New Jersey side of the Delaware River. The nuclear-power plant, by providing many jobs in the area, as well as by using the river water in its cooling process, has forever altered the way of life of the Delaware River estuary community.

Linwood Tice, an eighty-two year old self-proclaimed waterman and life resident of Salem County, New Jersey, retired from the academic world as a distinguished university professor of pharmacology. At his retirement, when his colleagues wanted to honor this man and his contributions to their profession, they chose an award that they knew would mean more to him than other memento. They chose to present him with an oil-color painting of the floating cabin that had descended through his family. The painting hangs today in the living room of Dr. Tice's Salem County home.

Basing her painting on a small black and white photograph of the floating cabin provided to her

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secretly by Linwood Tice's wife, the artist captured not only the beauty of the New Jersey wetlands in which the cabin sits, but also the significance that this little 10 foot by 19 foot floating structure holds for Dr. Tice. Like Linwood Tice, other surviving watermen of the Delaware River estuary would probably also appreciate the respect that the artist's sensitive rendition exhibits for the floating cabin--one of the last remaining examples of what was once a prevalent maritime tradition.

Dr. Tice, who shares the recreational use of his cabin exclusively with only one life-long friend, views the future of floating cabins pessimistically. Although he has had many entertaining times over the past years in his cabin, he admits that up-keep of the cabin has been costly. Even though it is located in a remote part of the wetlands --accessible only by a ten minute boat ride-- the cabin has frequently been vandalized, forcing Dr. Tice to complete costly repairs and to install bars over the windows and doors. He sees this as part of the world changing around him, and he says he watches while young folks "lose concern for the older traditions and replace them with the new [ways of life]." When he or the friend with whom he shares the cabin dies, his plan is that the cabin will be deliberately destroyed by fire. Better this, he feels, than to allow the cabin to slowly deteriorate and disintegrate like so many before.

However, many would argue that this is not a community that has so easily forgotten its history. Until recently, physical preservation of the floating cabins that remain intact has been accomplished entirely through private effort. The men who own and care for them are motivated by the meaning that these craft have to their own heritage. Walter Hutchinson, a native of Salem, New Jersey, who is in his sixties, owns one of the finest examples of this by-gone tradition. His floating cabin, about sixteen-feet abaft and eight-feet abeam, belonged to his grandfather. It has been lovingly preserved within his family -- first by his grandfather then by his father, and now the task is his. Mr. Hutchinson worries, also, about the cabin's fate after he is gone. He was concerned that because the tradition is all but unknown to the younger generations, no effort would be made to preserve the craft that still survive today. However, many of his concerns were put to rest when a very recently renewed interest in Salem County's cultural heritage resulted in the creation of an annual Shad Festival in Salem, New Jersey. The festival will display Mr. Hutchinson's cabin, and many related traditions, for the benefit of his community. In this way, Mr. Hutchinson thinks that his cabin will serve future generations of Salem County residents, "by teaching them from where they came."

Restorations of at least two other cabins are also being planned. In Port Penn, Delaware, the last cabin remaining in the state awaits planned restoration. A brochure will be provided to visitors so that they know what they are seeing when they look upon this modest structure. There was a time when the cabins were so common that no accompanying explanation would have been necessary, but those times have passed.

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The custom of having floating cabins "as far as the eye can see" in the Delaware River estuary is gone forever. However, through preservation and documentation efforts, perhaps enough information will be salvaged so that neither the structures nor their legacy will continue to quietly disintegrate beyond retrieval and future generations will know, as Mr. Hutchinson says, "from where they came."

## Appendix A: Floating Cabins

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## APPENDIX B:

### List of Occupations in Leipsic, Little Creek, and Port Penn Source: U.S. Population Census, manuscript returns, 1870-1920

#### **Agriculture**

Bookkeeper in creamery  
Butcher  
Buyer of grain  
Carter  
Creamery employee  
Creamery manager  
Engineer in creamery  
Farmer  
Farm hand  
Feed store employee or owner  
Hayman  
Hay business employee or owner  
Hay dealer

#### **Trapping and Hunting**

Merchant in fur  
Trapper

#### **Fishing and Oystering**

Fisherman  
Fish and oyster dealer  
Oysterman  
Progger  
Waterman

#### **Manufacturing**

Barnmaker  
Blacksmith  
Bricklayer  
Broom maker  
Can maker  
Carpenter  
Dress maker  
Factory labor  
Grist mill engineer  
Laborer  
Machinist  
Manufacturer of Ice Cream  
Miller  
Milliner  
Painter  
Plasterer  
Seamstress  
Ship Carpenter

Shoemaker  
Straw maker  
Tailor  
Tinsmith  
Wheelwright

**Retailing and Wholesaling**

Barber  
Chauffer  
Clerk  
Cobbler  
Grocer  
Hotel Keeper  
Keeper of boarding house  
Merchant  
Peddler  
Rail Merchant  
Sales lady  
Salesman  
Sail mender

**Finance**

Bookkeeper in bank  
Stock dealer

**Professional Services**

Dentist  
Druggist  
Engineer  
Nurse  
Physician

**Transportation and Communication**

Captain of a steamboat  
Contractor for a bridge  
Engineer for steamboat  
Firemen on steamboat  
Pilot for steamboat  
Range light keeper  
Sailor  
Superintendent of Public Roads

**Settlement Patterns and Demographic Change**

Speculator

**Government**

Constable  
Justice of the Peace  
Mail carrier  
Postmaster  
Tax collector

**Religion**

Minister

Sexton

**Education**

School teacher

**Other**

Domestic servant

Gardner

Journalist

Huckster

Laborer doing odd jobs

Poster

Post Railer

Servant

Teamster

## **APPENDIX C:**

### **Finder's Guide for Elements of the Historic Context**

Historic Themes: p. **4-5, 132-133**

Geographic Zones: p. **5-10**

Chronological Period: p. **11**

Known and Expected Property Types: **Chapter II and III**

Criteria for Evaluating Existing or Expected Resources: p. **122-133**

Distribution and Potential Distribution of Property Types: p. **5-10, Chapter II**

Goals and Priorities for the Context and Property Types: **Chapter VI**

Information Needs and Recent Preservation Activity: p. **115-122**

Reference Bibliography: p. **144-149**

Method for Involving the General and Professional Public: p. **vii, 12, 139-141**

Mechanism for Updating the Context: p. **135-136**